Department of Political and Social Sciences

Jobless Couples in Europe. Comparative Studies With Longitudinal Data

Juho Härkönen

Thesis submitted for assessment with a view to obtaining the degree of
Doctor of Political and Social Sciences of the European University Institute

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ABSTRACT

Unemployment does not hit only individual workers, it affects their families as well. There has been increasing interest in household joblessness and the polarisation of work across households. The consequences of household joblessness on well-being can be dramatic. Jobless households have a high risk of poverty and household joblessness can affect the long-term outcomes of adults and children living in such households.

The objective of this dissertation is to contribute to the understanding of household joblessness in Europe by analysing couples in which both partners are simultaneously without work. Using data from the European Community Household Panel, I focus on three areas, which have received little attention in the literature.

In the first empirical chapter, I analyse the dynamics of dual joblessness in Europe. I decompose dual joblessness rates into inflows and outflows. The results reveal that the European variation in dual joblessness rates results from variation in both flows, even though the differences in inflow rates matter more. I analyse these flows in more detail with further decompositions and event-history models. The inflow differences depend on variation in breadwinner models and employment security, while the outflow differences are linked to the European differences in unemployment durations in general.

In the second empirical chapter, I test the so-called macho-effect hypothesis. This hypothesis predicts that couples avoid female breadwinning because of cultural codes that regulate gendered family provision patterns. This has been used to explain why the wives of unemployed men have low employment rates. I test the hypothesis in two parts. First I fit conditional logit models on data on annual transitions between the joint employment statuses of couples. In the second step I use the estimates from these models to simulate transition rates for couples with varying characteristics. The results support the macho-effect hypothesis.

In the third empirical chapter, I analyse whether childbearing affects the risk of dual joblessness. I construct a theoretical model in which wives are expected to withdraw from employment after childbirth while husbands are expected to remain employed or even increase their labour supplies. In this model, childbearing is expected to increase the risk of dual joblessness in the short-run, but the effect is expected to fade away as the child becomes older and the mother is more likely to return to employment. I test the with fixed effect logit modelling. The results support the expectations in most countries. I also analyse the institutional correlates of the cross-national variation in the effects. Strict employment protection decreases the initial effect of childbearing, but also lengthens the time when childbearing increases the risk of dual joblessness. Policies targeted at supporting the employment of mothers, on the other hand, reduce this time by promoting the (re-)entry of mothers to work.

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1 INTRODUCTION

1.1 The European unemployment problem and household joblessness

Practically every European country has experienced high and persistent unemployment since the 1970s. Three decades later, unemployment remains a major social and economic problem in the European Union. At the start of the millennium, three EU member states had unemployment rates above ten percent, in another six they were between five and ten percent, and the EU-level unemployment rate remained at 7.8 percent (OECD, 2004: Table A; see Table 1.1.). Of these then fifteen member states, eight experienced double-digit unemployment during the 1990s, and a full twelve since the 1970s (ibid.; Scharpf and Schmidt, 2000: Table A.4).

Table 1.1. Unemployment and long-term unemployment rates in the European Union (EU15), 2000.

	AT	BE	DK	FIN	FR	DE	GR	IRL	IT	LUX	NL	PRT	SP	SWE	UK
Unemp.	3.7	6.9	4.4	9.8	9.3	7.8	11.0	4.3	10.4	2.3	2.9	4.1	11.3	5.6	5.4
Long-term	25.8	56.3	20.0	29.0	42.6	52.5	56.4	33.1	61.3	22.4	26.7	42.9	47.6	26.4	28.0

Source: OECD (2004), Employment Outlook.
Note: The long-term unemployment incidence measure records the percentage of unemployment spells lasting at least 12 months.

Given these depressing figures, it is not surprising to find active research on the causes and consequences of unemployment. Numerous books and articles have sought explanations for the European unemployment malaise from industrial structures, technological change, globalisation, and welfare state and labour market policies, among other factors (e.g., Atkinson and Micklewright, 1991; Layard et al., 1991; OECD, 1994; Nickell, 1997; Blanchard, 1998; Machin and Manning, 1999; Nickell and Layard, 1999; Blanchard and Wolfers, 2000; Esping-Andersen and Regini, 2000; Scharpf and Schmidt, 2000; DiPrete, 2005; Nickell et al., 2005; see Chapter 2).

High unemployment has raised understandable concerns of its social outcomes, most notably, income inequality, poverty, deprivation, and social exclusion (e.g., Gallie and Paugam, 2000; Atkinson et al., 2002). In general, the results from empirical studies point to negative impacts of unemployment on well-being. The relationship between unemployment and welfare is not, however, straightforward. Firstly, the duration of unemployment is important in determining its impacts. The economic effects of short spells of unemployment can be smoothed by savings and the like. On the other hand, the outcomes of long-term unemployment are

potentially more severe, and consequently, the pronouncedly long-term nature of European unemployment is of particular concern (Table 1.1). Second, the standard definitions of unemployment assume search for work. However, for many of the consequences, the main issue is not whether a person is looking for work, but whether a person is employed or not. Therefore, many studies have expanded their focus to joblessness instead of unemployment in the strict sense of the word (e.g., Wilson, 1987; OECD, 1998; Clasen et al., 2006; Faggio and Nickell, 2003). Third, the impacts of unemployment are shaped by social and labour market policies designed to regulate employment and welfare (Esping-Andersen, 1999; Gallie and Paugam, 2000). Fourth, family situations shape the impact of unemployment. The importance of the family is acknowledged in the main indicators of socio-economic well-being, which usually measure individual welfare as a function of the incomes or consumption of the household (cf. Jäntti and Danziger, 2000: 313-316). In the case of unemployment and joblessness, their effects depend importantly on whether they occur in a household with other employed members or otherwise.

The distribution of employment and non-employment across households has attracted the attention of students of labour market inequalities. A number of studies have reported that employment and joblessness are not equally distributed across households (e.g., OECD, 1998; De Graaf and Ultee, 2000; Gregg and Wadsworth, 2001; Iacovou, 2003). This means that some households have several employed members, while others have none. Furthermore, these polarising patterns have become stronger in some countries (Gregg and Wadsworth, 2001; Gregg et al., 2004). At the other end of the spectrum, the full-scale entry of women into the labour force has made the dual earner (and dual career) family model increasingly common (Blossfeld and Drobnič, 2001), while the other end of the spectrum has witnessed the "rise of the jobless household" (Gregg et al., 1999). This polarisation of employment and non-employment has contributed to rising income inequalities. It has also promoted the combination of low aggregate unemployment, high employment, and high poverty rates in countries like the United Kingdom (Gregg and Wadsworth, 2001; Nickell, 2004). Because of the mismatch between individual and household level trends in employment and non-employment, individual-level labour market measures do not provide an accurate picture of the social distribution of work and its consequences.

The increase in household joblessness is a topic worthy of attention for several reasons. First, jobless households have elevated risks of poverty and deprivation. Across a wide range of

countries, households with no working members experience notably higher risks of poverty than households with at least one working member (Iacovou, 2003: Figure 4.1.; Iceland and Kim, 2001). Household joblessness and poverty can also have long-term impacts on children, such as lower cognitive and educational achievement, weaker attachment to the labour market, and higher levels of risk behaviour (e.g., Brooks-Gunn and Duncan, 1997; Ermisch et al., 2004; Heckman, 2006). Second, living in a household with no person in employment – in particular, if this is over a prolonged period – means increased detachment from the world of work, and thus contributing to possible underclass formation (cf. Wilson, 1987; De Graaf and Ultee, 1991; Buckingham, 1999). Third, household joblessness means reliance on social transfers and increases pressures on social welfare systems (Gregg and Wadsworth, 2001: 778). Fourth, household joblessness can affect the wage pressure from unemployment and, consequently, the equilibrium levels of unemployment (ibid.).

This dissertation is concerned with couples, in which both partners are simultaneously out of work. The majority of the European population lives in couple-based households. Although household joblessness is more common in single-adult households than in couple-based ones, it is not totally absent from the latter (OECD, 1998; Gregg and Wadsworth, 2001; Gregg et al., 2004; Table 1.2.). The employment of single mothers receives much attention in the literature, and there is ongoing and vibrant research in the field (e.g., Lewis, 1997; Gonzales, 2004).[1] Less attention has been paid to jobless couples. Since the labour supply patterns of couples differ from those of single adults, focusing on either makes sense for theoretical and practical reasons.

I study joblessness instead of unemployment – thus also including homemakers, discouraged workers, and others (unless otherwise indicated) – for the reasons related to social welfare stated above. For the social consequences, a clear and supported working hypothesis is that family level non-employment matters more than family level unemployment. I further limit the analyses to "working-age" couples (the specific inclusion/exclusion criteria vary somewhat across the chapters), thus excluding pensioners, to focus on the ages when couples are expected to provide for themselves independently through labour.

[1] On the other hand, single adult households have received far less interest. Gregg and Wadsworth (2001: 802) concluded that "labour market problems within the population of single men are currently the most worthy of further investigation". This is, indeed, an interesting topic for further research.

A word on terminology. The terms "joblessness", "worklessness" and "non-employment" all refer to the same labour market status. I also use "dual" and "coupled" interchangeably. For example, "dual joblessness" and "coupled non-employment" mean the same thing. Furthermore, for the sake of simplicity, I refer to all male partners as "husbands" and all female partners as "wives", regardless of their marital status. I use this terminology throughout the dissertation.

1.2 Coupled joblessness in Europe: a brief overview of previous results

In this section, I present the basic descriptive results from previous studies on coupled joblessness. I discuss the explanations more thoroughly in the third section of Chapter 3. The interest in jobless households and couples is not something new, the first studies dating back to the economic recession of the 1930s (e.g., Humphrey, 1940). This interest re-emerged in the 1970s and 1980s, following the return of mass unemployment. Research on dual joblessness has been especially active in the United Kingdom and in the Netherlands (Cooke, 1987; Ultee et al. 1988; De Graaf and Ultee, 1991; 2000; Henkens et al., 1993; Davies et al., 1994; Gregg and Wadsworth, 1994; 2001; Dex et al., 1995; Doris, 1998; McGinnity, 2002). The majority of previous studies have been non-comparative, or have been limited to comparisons of a handful of countries (e.g., Ultee et al., 1988; Dex et al., 1995). Due to the increase in suitable data, researchers have recently made some comparisons of a larger number of countries (OECD, 1998; De Graaf and Ultee, 2000; Gregg and Wadsworth, 2001; Iacovou, 2003).

Most researchers have asked why the wives of unemployed husbands have low employment rates, contrary to what one might expect (e.g., Cooke, 1987; Garcia, 1991; Davies et al., 1994; Dex et al., 1995; Giannelli and Micklewright, 1995; Doris, 1998; McGinnity, 2002). Some research has taken a more symmetrical view and has also looked at the effects of female labour market status and wages on male labour supply (Henkens et al., 1993; De Graaf and Ultee, 2000; Virmasalo, 2002; see also, Juhn and Murphy, 1997). Many studies have shown that spouses' labour market statuses remain positively correlated even after controlling for various background characteristics. The overall conclusion has often been that some mechanisms counteract the need for an additional worker in times of spouse unemployment (see Chapter 3, Section 3, for a more complete survey of these explanations).

Table 1.2 presents data on dual joblessness from twelve countries, reported by Paul de Graaf and Wout Ultee (De Graaf and Ultee, 2000: 271, 274). The first row of the table shows the share of dually jobless couples in 1994. The second and the third rows present the associations (in odds ratios) between the partners' unemployment and non-employment, respectively.[2] The results show rather notable cross-national differences. Dual joblessness rates vary from 2.0 percent in Denmark and Luxembourg to 8.0 percent in Ireland. Comparing these rates to the unemployment rates presented in Table 1.1, we can see that there is no linear correspondence. That can be also seen from the odds ratios: for example, the non-employed had a five times higher risk of having a non-employed spouse than an employed one in the United Kingdom, while in Spain there was no difference. These comparative differences have been usually attributed to the differences in social benefit systems and the (dis)incentives they create. There has also been some change in dual joblessness over time. The OECD (1998) reported a slight overall decrease in the incidence of dual joblessness in the European Union between the mid-1980s and the mid 1990s. The same study also found that there was an increasing concentration of work and worklessness in couples: the growth in employment seemed to benefit households which would have had at least one working member otherwise. Similar trends have also been reported elsewhere (Ercolani and Jenkins, 1998; Gregg and Wadsworth, 2003; Gregg et al., 2004).

Table 1.2. Proportions of jobless couples of all couples (%), and odds ratios (OR) between partners' labour market status (unemployment vs. employment and non-employment vs. employment) in twelve European countries in 1994. Both partners 25-54 years old.

	BE	DK	FR	DE	GR	IRL	IT	LUX	NL	PRT	SP	UK
%	2.3	2.0	2.7	1.8	3.5	8.0	4.1	2.0	2.7	3.3	7.3	7.7
OR Ue. vs. emp.	5.7	5.7	2.4	3.5	2.8	4.7	3.2	12.1	2.2	4.1	3.1	4.3
OR Ne. vs. emp.	3.8	3.9	1.2	1.1	1.0	3.2	1.4	0.9	1.8	2.0	1.0	5.1

Source: De Graaf and Ultee, 2000: 271, 274.

Most studies have used cross-sectional data. The most obvious limitation of this is that there is a clear lack of longitudinal information on dual joblessness (and household joblessness in general). Paul Gregg and Jonathan Wadsworth (2001: Table 4.3.) reported that at the turn of

[2] Odds ratios are computed using the formula $(p/(1 - p)) / (q/(1 - q))$, in which p is the probability that a spouse of an employed spouse is employed, and q is the probability that the spouse of a nonemployed spouse is employed. In this context, an odds ratio is a measure of the inequality in the distribution of labour market statuses across couples.

the millennium, over half of the adults in jobless households had not been working in the past three years (nor were actively seeking for work) and Dorsett (2001) found that dual joblessness can be very persistent. Sexton (1988) showed how the spouses of the longterm unemployed have even lower employment rates than the spouses of other unemployed workers. In an earlier study (Härkönen, 2005), I reported wide cross-national differences in the durations of household joblessness experiences of children. Without focusing explicitly on the durations (or repetitiveness) of dual joblessness, some studies have used longitudinal data. For example, de Graaf and Ultee (1991) used panel data to analyse the effects of spouse education and labour market status on employment dynamics, finding accumulative tendencies. Giannelli and Micklewright (1995) and McGinnity (2002) used panel data to analyse the labour market dynamics of the wives of unemployed wives in Germany and in the United Kingdom. In the latter, having an unemployed husband delayed the employment entry of jobless wives, while in Germany, there was evidence of the opposite (McGinnity, 2002). Despite these results, there is need for further research on the longitudinal and dynamic aspects of dual joblessness, both from a descriptive and an analytical point of view.

1.3. Objective of the dissertation

The aim of this dissertation is to contribute to the understanding of dual joblessness in Europe with three empirical studies on topics that have not been sufficiently covered in the literature. The three studies focus on the comparative dynamics of dual joblessness in Europe, the culturally based rules governing family provision and the division of labour in couples, and the effects of childbearing on dual joblessness. Unlike in most earlier research, I approach the issue through direct measurement of dual joblessness rates, instead of measures of employment polarisation (e.g., Gregg and Wadsworth, 1994; 1996; 2001; 2003; De Graaf and Ultee, 2000; Iacovou, 2001). I analyse thirteen European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Portugal, Spain, and the United Kingdom) with data from the European Community Household Panel, a comparative panel survey of households in the European Union (Eurostat, 2003). These data refer to the period from 1994 to 2001.

The discussion in the previous section pointed to two aspects of dual joblessness that earlier research does not sufficiently cover. These are the need for research on the longitudinal aspects of dual joblessness and the need for more comparative research. In particular, there is a need for comparative research with longitudinal data. The comparative differences in the

level of dual joblessness are well established. Longitudinal data can enrich this picture by providing information on the comparative differences in the incidence of dual joblessness and its durations, and on the institutional factors affecting them. Such dynamic analysis also helps in understanding the dynamics that produce dual joblessness (cf. Blanchard and Portugal, 2001).

Therefore, in the first empirical study (Chapter 5), I analyse the dynamic roots of the variation in European dual joblessness. Dual joblessness rates can be broken down into flows into and out of dual joblessness; consequently, dual joblessness rates depend on these dynamics. An analysis of these dynamics is also of interest in itself. In this chapter, I decompose European dual joblessness rates to their inflow and outflow components. I analyse these flows using further decompositions and event-history analysis. The results show variation in both flows. They also show that both flows contribute to the European differences in dual joblessness rates. However, the variation in inflows is more important for the overall cross-national variation. I link this to differences in female employment rates and the spread of the dual earner model, and to the cross-national variation in employment security. The national differences in the durations of dual joblessness are largely governed by similar mechanisms that govern the comparative differences in long-term unemployment.

There is also a need for additional research on the mechanisms that produce and maintain dual joblessness.[3] Most research has focused on economic factors. To gain a more complete understanding, non-economic factors need to be incorporated into the analysis. To contribute to this understanding, I test the so-called "macho-effect" hypothesis in Chapter 6. This hypothesis states that the wives of unemployed men are reluctant to take the single breadwinner role of the family, due to cultural codes that regulate the gendered patterns of family provision. The hypothesis has its roots in ethnographic research on family responses to male unemployment. The hypothesis has been discussed in some studies that have used quantitative data, but it has never been tested explicitly. I test this hypothesis against data on the transitions between the joint employment statuses of couples. The results support the claim that couples avoid female breadwinning.

[3] Kenneth Cooke (1987) made a similar conclusion already twenty years ago.

One of the socially important topics, which has not been covered sufficiently concerns dual joblessness and children. Child poverty is of constant concern for policy makers, researchers, and the general public. Children living in jobless households can have very high risks of poverty. Since most European children live with two (step)parents, dual joblessness has direct implications for child welfare. Despite these facts, previous studies have not analysed the link between children and dual joblessness beyond simple descriptive tables.

Therefore, in Chapter 7, I ask whether childbearing and the age of the youngest child have an effect on dual joblessness. I discuss a theoretical model in which mothers are expected to withdraw from work directly after childbearing, but in which fathers are expected to remain employed or even increase their labour supplies. This solution is more risky regarding dual joblessness than a dual earner model. How long this male breadwinner pattern persists depends mainly on the mother's decisions on returning to work. I also discuss the effects of policies that can support the employment of mothers and fathers during the early months and years of the child. I test this model using fixed effects logit regression analysis. The results show that childbearing increases the risk of dual joblessness in all countries except Italy and Spain. The results also confirm the expectation that this effect gradually decreases by the age of the youngest child. Furthermore, the results support the hypothesis that policies can shape the effects of childbearing on dual joblessness.

1.4 Structure of the dissertation

In the following chapter (Chapter 2), I discuss the role of unemployment, non-employment, and families in common sociological theories of social stratification. The discussion shows that the role of these factors has not always been clear. I also discuss research on the effects of unemployment and household joblessness. I then move on to discuss European differences in welfare states, labour markets, and families, in the lines of welfare regime analysis (Esping-Andersen, 1999). Finally, I present data on and explanations for the European experiences in unemployment and female employment during the 1990s.

In the third chapter, I discuss the literature on the labour supply of individuals and families, and the previous literature on dual joblessness. Economists have been mainly interested in the responsiveness of labour supply to wages and other incomes. The neoclassical theory of labour supply has been extended to cover the labour supply of families. Previous research on dual joblessness has often demostrated an interest in the labour supply decisions of the wives

of jobless men. The motivating question behind much research is why such women do not enter employment following the unemployment of the husband. I review these explanations in the third section of Chapter 3.

I begin the fourth chapter by presenting the data. The European Community Household Panel is a suitable dataset for analysing dual joblessness, because it contains data on both spouses and their households. After introducing the data, I briefly discuss two commonly used tools for the analysis of panel data, fixed-effects modelling and event-history analysis. I use both methods in the dissertation. I present some preliminary descriptive findings in the third section of the chapter.

The fifth, sixth, and seventh chapters include the three empirical chapters discussed above, and constitute the core of the dissertation. Chapter 8 summarizes the main findings, discusses the implications of the findings for research and policy, and suggests some topics for future research.

2 UNEMPLOYMENT, EMPLOYMENT, AND SOCIAL INEQUALITIES: THEORY AND THE EUROPEAN EXPERIENCE

2.1 Introduction

Unemployment is a clear indicator of social inequality. Surprisingly enough, its theoretical role has been rather unclear in many sociological approaches to social inequality. Nevertheless, unemployment can have negative financial, social, and psychological consequences. Many of these consequences depend on the household context in which unemployment occurs: if more than one member of the household experiences unemployment, the consequences are often worse. This question of the role of the household in shaping the consequences of unemployment is linked to a classic question in social stratification research, namely, whether the individual or the household should be treated as the central unit of analysis. I discuss these issues in the first part of the next section of the chapter.

Inequality levels vary across European countries. Likewise, the consequences of unemployment and joblessness are worse in some countries than in others. Welfare researchers approach these cross-national differences commonly through welfare regime theories. Despite European integration, welfare states, labour market institutions, and family systems differ between the member states of the European Union. We can detect some country groupings of the configurations of these three institutions. These are called welfare regimes. These institutions are closely linked, and functioning of one affects the functioning of the others. The three institutions also form the broad context that affects the experiences of dual joblessness in Europe. I introduce Western European welfare regimes briefly in the first part of the third section.

Europe is not a single entity when it comes to the experiences of unemployment and those of female employment rates in the 1990s. These differences have direct relevance to dual joblessness. The role of unemployment is obvious. Male employment remains the norm throughout Europe, whereas female employment rates vary more across the continent.

Several scholars have sought to explain European unemployment problems with European labour market institutions and welfare states. These institutions can also affect the experience of dual joblessness in Europe. The second part of the second section gives stylised facts and

explanations of European unemployment and female employment rates. The third section of this chapter provides a summary of the discussion.

2.2 Couples, joblessness, and social inequality

Unemployment is one of the main features of inequality in modern labour markets (Sen, 2000: 20-21, 94-96). Therefore, it is surprising that its theoretical role in many sociological theories of social stratification has remained unclear (Korpi, 1998: 6-8). Many of the best-known social stratification theories focus on occupational category–based social classes (e.g., Wright, 1985; Erikson and Goldthorpe, 1992). Despite some attempts to include (long-term) unemployment as a separate category into the class scheme (Erola and Moisio, 2002), unemployment is generally ignored, treated as a redundant category, or analysed as an outcome of social class (e.g., Layte et al., 2000). A reason for this apparent neglect is the usually non-permanent nature of unemployment. Most unemployment spells last less than a year or two, whereas one's class position remains rather fixed after young adulthood. Unemployment is a central defining feature of social class in one strand of social stratification research: theories of the underclass (Auletta, 1982; Wilson, 1987; Buckingham, 1999). However, these theories focus mainly on chronic joblessness. Many social stratification theories have also given theoretical privilege to intergenerational social mobility instead of distributional issues and social inequalities here and now (DiPrete, 2007).

It is obvious that unemployment is of interest for students of social inequality. Unemployment can have negative effects on the welfare of those unlucky enough to experience it. Unemployment usually means a decrease in incomes, and unemployment is an important risk factor of poverty. Richard Hauser and Brian Nolan (2000) reported how income poverty levels among the unemployed were higher than of the working-age population at large. Furthermore, the long-term unemployed had a particularly high risk of poverty. Although social policies can soften the effect of unemployment, these findings are generally accepted. Unemployment often leads to a loss in psychological welfare and life-satisfaction. Christopher Whelan and Frances McGinnity (2000) analysed the link between unemployment and satisfaction and found that unemployment has a powerful negative effect on satisfaction. Clark (2003) found that unemployment had strong effects on psychological well-being, especially of men, and that these effects persisted even after the end of the unemployment spell (Clark et al., 2001). Unemployment can have other long-term implications as well. Unemployment – especially if it is prolonged – can mean a loss of tenure, human capital, and

valuable contacts, which can affect future labour market outcomes (Arumpalam, 2001; Gangl, 2003; 2004; 2006). Unemployment can also be detrimental to marital stability (Hansen, 2005), and it can affect the outcomes of the children of unemployed parents (Ermisch et al., 2004). Finally, work is valued in its own right, and unemployment means that some people do not have access to this good.

Many of the consequences of economic inactivity are the same as those of unemployment. For example, since economically inactive people do not earn wages, they have a higher-than-average risk of poverty. Economic inactivity itself – as opposed to searching for work – can strengthen this risk, because many social benefit programmes require job search as a requirement for entitlement. Like in the case of unemployment, the socio-economic position of the non-employed – be it homemakers, students, or discouraged workers – has been ambiguous in many social stratification schemes. This ambiguity is rooted in the discussions on the socio-economic status of women. Because men are expected to work, unemployment was seen as an anomalous case. Women, however, have for long periods remained outside the labour market, and therefore their class status needed to be determined through something else, rather than their occupational status.

In the "conventional view" of class analysis, the class position of the male breadwinner (Goldthorpe, 1983) – or the adult with the highest position in the household (Erikson, 1984) – determines the class of all the members in the household (including other employed family members). Many scholars contested this position by criticizing its patriarchal assumptions and the priority given to labour market relations (Acker, 1973; O'Connor, 1993; Orloff, 1993). These criticisms were fuelled by changes in family systems, such as increases in divorce rates, female economic activity, and dual career families (Sørensen, 1994; Szelényi, 1994; McRae, 1997). A solution was to use the individual instead of the family as the basic unit of stratification, or to determine the position of the family through the combination of the statuses of its members (e.g., Heath and Britten, 1984; Szelényi, 1994).

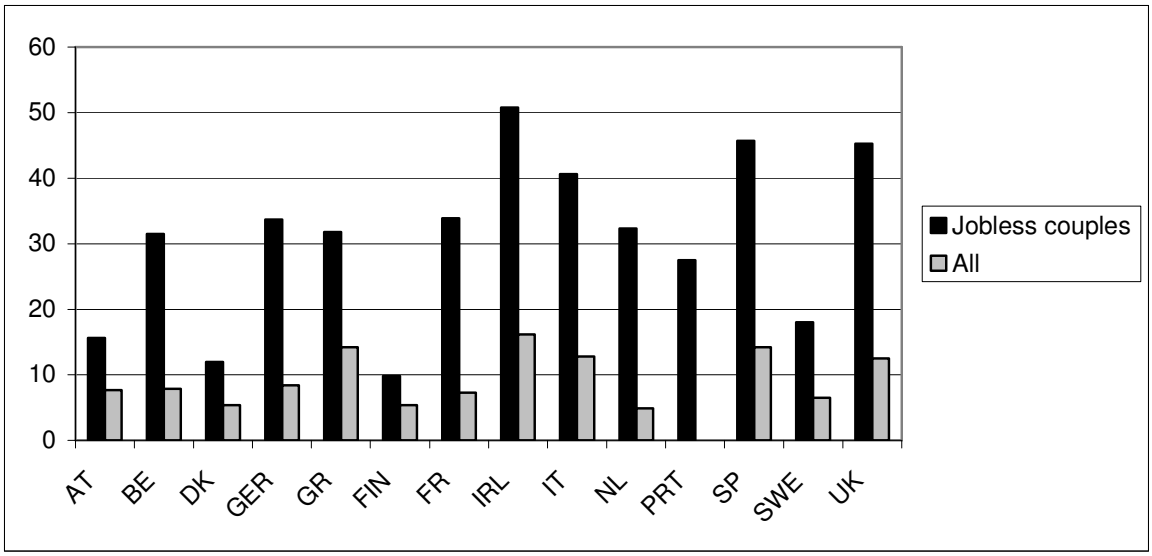
This brings us to a core question in social inequality research. Should the individual or the family be the central unit of analysis? Of course, individuals are rich or poor, happy or unhappy. But since one's family situation clearly affects these outcomes, the case for treating families as central units of social stratification remains well-grounded. In particular, research concerned with inequality in consumption and levels of living "clearly must consider the

interdependence among the members of the group [the family] that shares resources and living conditions" (Sørensen, 1994: 32). Indeed, research on income inequality and poverty consider the family – or better, individuals within family-units – as the analytical starting point (Jäntti and Danziger, 2000: 313-316). [4] On the other hand, research concentrating on the direct relationship between individuals and labour markets (for example, wages instead of disposable incomes) does better to consider the individual as the basic unit of analysis (Erikson, 1984; Sørensen, 1994). Since the units of analysis differ, these two important dimensions of stratification do not necessarily coincide. Someone high on one dimension (say the consumption dimension) may be low on the other (for example, a McJob worker who married money). The proper unit of analysis thus depends on the question at hand. If there are reasons to believe that the family shapes the individual's position on some dimensions of the stratification system (such as living conditions) over and above the status of the individual, the family situation should be taken into account. If the individual's position is a direct result of his or her status, the individual is the appropriate unit of analysis.

Most labour market research has taken the individual point of view. However, because of the important role of the family in shaping consumption outcomes, one can make an argument in favour of expanding the focus to the combined labour market status of the family (Sørensen, 1994: 32; Gregg and Wadsworth, 2001: 778). This is also the argument for studying jobless households and polarisation of work at the household-level. There has been a household-level polarisation of work in several countries. In line with expectations, there is evidence that this has increased income inequality (Ercolani and Jenkins, 1998; Breen and Salazar, 2004). These results show that individual-level measures of the state of the labour market do not give a sufficient account of the distribution of labour market rewards and its socio-economic implications.

[4] An implicit assumption in most research on income distribution and monetary welfare is that incomes are divided equally between household members. This assumption is not without problems (Jenkins, 1991).

Figure 2.1. Poverty rates among jobless couples and the overall population in Europe, 1999/2000.



Sources: Jobless couples: Iacovou (2001: Figure 1), the husband is aged 25-55; Overall poverty rate: Luxembourg Income Study (LIS) key figures.
Note: The poverty line is set at 50 % of the median equivalent scaled income

The socio-economic importance of household level employment patterns is shown in a paper by Maria Iacovou (2001; Table 1). I present a part of her results in Figure 2.1, which displays the poverty rates among jobless couples and the overall population in fourteen European countries at the change of the millennium. Jobless couples can have dramatic poverty levels. In Ireland, the poverty rate climbs over 50 percent, and is very high in most other countries. Poverty among jobless couples is also clearly higher than the overall poverty rate, even in the Nordic countries and Austria, where jobless couples seem better off than in the other countries. Furthermore, Iacovou reported how the sharpest difference in poverty rates was between couples in which neither partner worked, and couples that contain at least one working spouse. Other studies have underlined these conclusions. Stephen Nickell (2004: Table 3) estimated that three-fourths of the British children whose parents do not work are poor. Children in jobless households made up a half of the population of children living in poverty. The rise in jobless households with children is a major factor behind the increases in child poverty in many countries (Gregg and Wadsworth, 2003; *The Economist*, 2006). Experience of household joblessness in childhood may have long-term effects. Ermisch and colleagues (2004) reported how this – especially when experienced in early years – had negative effects on later educational, economic, and behavioural outcomes. Household joblessness can have other consequences as well. Buckingham (1999) raised it as one of the central factors behind underclass formation (also, De Graaf and Ultee, 1991), and Jalovaara (2003) reported how jobless couples had highly elevated risks of union dissolution. Finally,

unemployment can have negative effects on the well-being of the spouses of the unemployed (Clark, 2003).

2.3 Welfare regimes, unemployment, and employment in Europe

2.3.1 European welfare regimes

Welfare regimes are a common catchword in modern comparative research. Many researchers use the term to refer to differences and similarities in the welfare states of developed countries (cf. Korpi and Palme, 1998; Arts and Gelissen, 2002). Others have extended its use to cover broader configurations of states, markets, and sometimes, families (e.g., Esping-Andersen, 1999; Gallie and Paugam, 2000; Scharpf and Schmidt, 2000). These authors claim that welfare states are not the only institutions shaping social welfare and social inequality. Instead, markets and families have a crucial role. It is clear that markets – and most importantly, labour markets – affect inequalities in economic outcomes. The family has kept its role as the primary institution of welfare production and redistribution: as discussed in the last section, the incomes of the family as a unit affect the financial welfare of its individual members. Moreover, most caring and reproductive action takes place in families.

The functioning of each of the three institutions depends on the other institutions. Dysfunctional markets or welfare states put strain on families, but families can protect its members from social risks arising from markets (or welfare states). A prime example is the role of employment of a family head in securing the livelihood of the non-working members of the family. At the same time, the employment chances and security of the family members depend on the functioning of the labour market and the welfare state.

Here, I use the literature on welfare regimes to orient the discussion on European families, labour markets, and welfare states. Much of the literature on welfare regimes has focused on discussing Esping-Andersen's (1990) classification into the Social-democratic, Conservative, and Liberal regimes, and suggested numerous alternative classifications (see Arts and Gelissen (2002) for a review). Without going into this discussion, I distinguish four groups of countries. Of the countries analysed in the empirical part of the dissertation, Denmark and Finland belong to the Nordic group; Germany, France, Austria, Belgium, and Luxembourg form the Continental group; Italy, Greece, Portugal, and Spain belong to the Southern group; and finally, the United Kingdom and Ireland form the Liberal group. The countries in each group share certain similarities, but differ in other respects. Some countries also went through

rapid changes. For example, rates of female employment and dual breadwinning rose in several countries (see below). Unlike some studies, I do not use welfare regimes as dependent or independent variables. Instead, I use them as pragmatic tools for structuring the discussion. Next, I briefly introduce the four regimes and their characteristics in the 1990s. Table 2.1 displays some key information.

In Nordic countries, the state has an active role in promoting social equality and the welfare of its citizens. Good examples are the large social transfer system and generous social benefits (and high taxes). Nordic welfare states have also provided more services than other welfare states. For example, every Nordic country has extensive provision of publicly funded childcare. Other family policies have also been actively developed. For example, maternity leaves are generally longer than elsewhere in Europe; in addition, Finland (and Norway) pay contributions to parents who take care of their children at home after the parental leave period. Another feature of the Nordic model is the universal nature of many provisions: all citizens have the right to these provisions regardless of need or professional affiliation. The labour market has been less regulated than in Continental or Southern countries, but more than in the Liberal group. Wage setting practices differed, however, during the 1990s. The Finnish wage setting system was highly centralised and coordinated, while in Denmark wages were negotiated at lower levels, although wage increase levels were coordinated at higher levels. Finally, the Nordic family system differed from the other groups. The dual-earner model was dominant, divorce and birth rates relatively high, and young people were more autonomous from their parents than in many other countries. (Korpi and Palme, 1998; Esping-Andersen, 1999; Gallie and Paugam, 2000; Scharpf and Scmidt, 2000; OECD, 2004.)

Table 2.1. Data on welfare state and labour market institutions in Europe.

	Employment protection index	Centralisation of wage bargaining	Coordination of wage bargaining	Coverage of bargained wages	Average replacement rate	Duration of unemployment benefits, months	Share of children (0-3) in public day care
Nordic							
Denmark	1.8	2	4	80+	70	48	58
Finland	2.2	5	5	80+	70	23	48
Sweden	2.2	3	3	90+	75	28	48
Continental							
Austria	2.4	3	4	95+	63	9	3
Belgium	2.5	3	4.5	90+	61	No limit	30
France	2.8	2	2	90+	75	23	29
Germany	2.6	3	4	68	69	12	5
Luxembourg	..	..	..	60+	..	..	..
Netherlands	2.1	3	4	80+	74	24	8
Southern							
Greece	3.5	..	..	80+	55	12	..
Italy	3.1	2	4	80+	54	6	6
Portugal	3.7	4	4	80+	83	24	12
Spain	3.0	3	3	80+	67	21	5
Liberal							
Ireland	1.2	4	4	80+	49	15	2
United Kingdom	1.0	1	1	30+	54	6	2

Notes and sources: Employment protection index, OECD (2004); Centralisation of wage bargaining (OECD, 2004: Table 3.5): 1 = Company or plant level predominant; 2 = Combination of industry and company/plant level, with an important share of employees covered by company level bargains; 3 = Industry level predominant; 4 = Predominant industry level bargaining, but recurrent central-level bargains; 5 = Central-level agreements of overriding importance; Coordination of wage bargaining (OECD, 2004: Table 3.5): 1 = Fragmented company/plant level bargaining, little or no coordination by upper-level associations; 2 = Fragmented industry and company level bargaining, little or no pattern-setting; 3 = Industry-level bargaining with irregular pattern-setting and moderate pattern-setting among major bargaining actors; 4 = informal coordination by peak association, or coordinated bargaining by peak confederations, or government imposition of wage schedules or government wage arbitration, or regular pattern setting with high union concentration and/or bargaining coordination by large firms; 5 = informal coordination of industry-level bargaining by an encompassing union confederation, or coordinated bargaining by peak confederations; Coverage of bargained wages (OECD, 2004: Table 3.3), except Greece and Ireland, based on EIRO (2002a); Average replacement rate at the start of the unemployment spell, OECD (2006); Duration of unemployment benefits, OECD (2006); Share of children in day care, Kamerman (2000).

In the Liberal group, the role of the state is more limited, whereas individuals and their families have more responsibility in providing for themselves. For this reason, incomes from the market or through family distribution are more important. Many welfare state transfers are targeted at the needy, and the role of means testing is accordingly higher. In the same way, family policies are less extensive than in the Nordic countries. The term "liberal" describes well these countries' approach to labour market protection. In both countries, workers have less protection against dismissal than elsewhere in Europe. The wage setting practices differed, however, in the 1990s. In the United Kingdom, wages were set at the firm or plant level, whereas relatively high centralisation and coordination characterised Irish wage setting patterns. Neither were Irish and British family systems alike. In Ireland, divorce was not permitted, birth rates were high, the male breadwinner model was rather dominant, and young people more dependent on their parents than in Britain, which resembled other Northern European countries in these respects. (Ibid.)

The traditional family model has had a more important role in the Continental model than in the Nordic countries, even though the differences became less significant in the 1990s. Following the subsidiarity principle, the family was the central provider of welfare. The traditional male breadwinner model was supported by taxation and a limited provision of public childcare. Unlike in the Nordic countries, which actively promoted the dual-earner model, Continental countries have sought to secure the male breadwinner against social risks through relatively strict employment protection legislation and generous unemployment benefits. The latter depend on occupational affiliation, which again increases families' economic dependency on the main breadwinner. In the last decade, wage negotiations took place mainly at the level of industries. Wage setting was relatively coordinated in Austria, Belgium, and Germany, but far less so in France. (Ibid.)

Finally, many regard Southern European countries as the most family-centered ones in Western Europe (e.g., Moreno, 2000). These countries had less developed family policies than other European countries, and many families rely more on relatives. Young people also rely more on their families, especially as many Southern countries had high rates of unemployment, shortages of affordable housing, and little support from the welfare state. The social benefit system was strongly polarised, and again, many jobless individuals had to turn to their families for support. In these countries, the male breadwinner model remained much more dominant than in elsewhere (with the exception of Portugal). As in the Continental

countries, taxation policies and a lack of family policies strengthened the male breadwinner model. Strict employment protection legislation protected the male breadwinner family against unemployment. In the 1990s, the level of wage-setting centralisation and coordination differed somewhat across the countries. (Ibid.; Ferrera, 2000.)

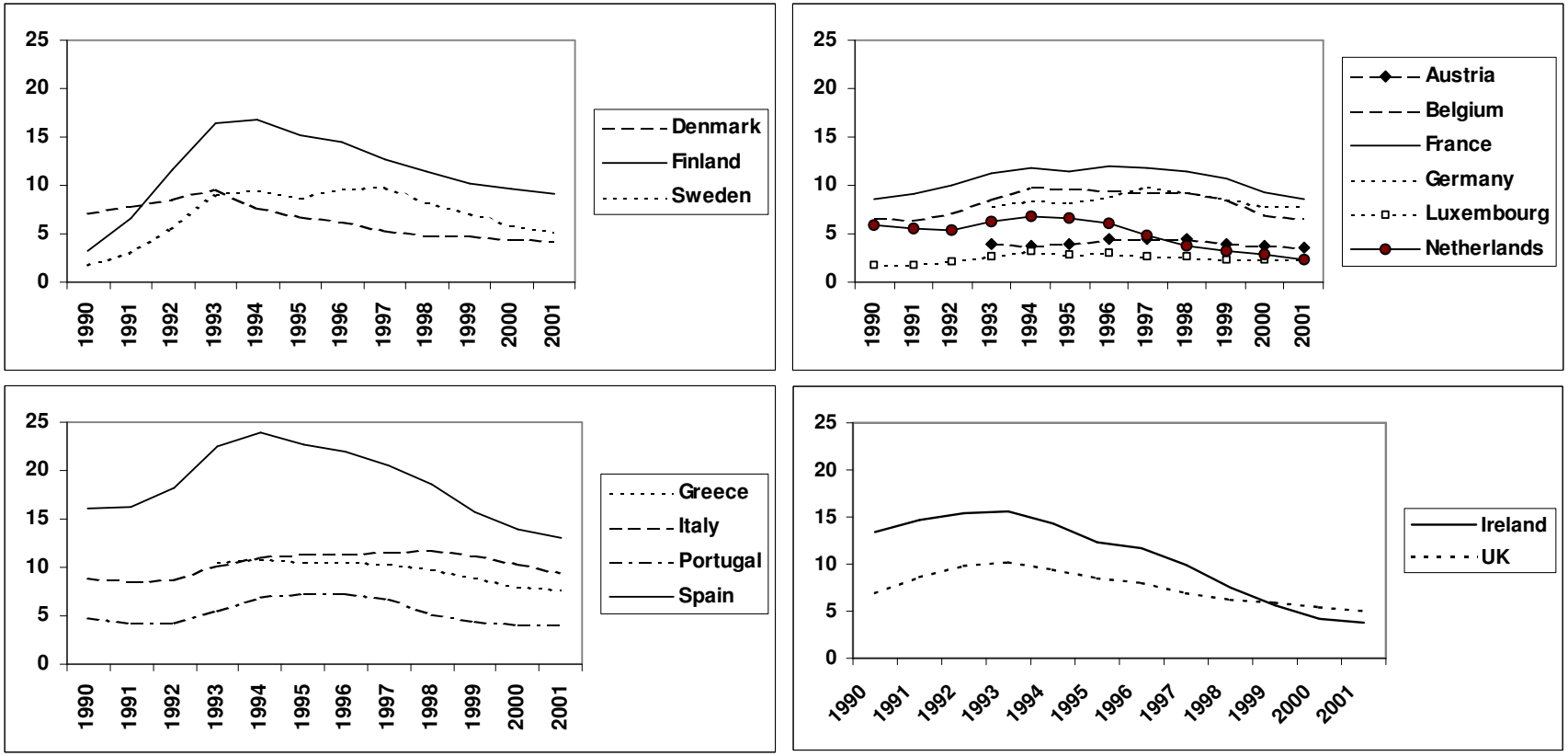
2.3.2 Unemployment in Europe: some stylised facts and explanations

2.3.2.1 Stylised facts

Unemployment was by many accounts the worst social and economic problem in Europe in the 1990s. The EU average hovered between approximately 8 percent and 11 percent. However, European countries showed very heterogeneous trends in unemployment rates. Figures 2.2a to 2.2d show the development of unemployment through this period.

Unemployment rates were high throughout the period in many Continental and Southern European countries. Spain had the worst unemployment record. There nearly one fourth of the labour force was unemployed in the mid-1990s. Finland and Sweden saw massive increases in unemployment in the beginning of the 1990s, from which they did not fully recover by the first years of the new millennium. Other countries fared better. Denmark, the Netherlands, the United Kingdom, and particularly, Ireland, managed to push down their high and structural rates of unemployment. Other countries, like Austria, Luxembourg, and to a lesser extent, Portugal, enjoyed lower levels of unemployment through the 1990s.

Figures 2.2a to 2.2d. Standardized unemployment rates in Western Europe, 1990-2001.



Source: OECD (2002) Employment Outlook

Table 2.2. Indicators of the distribution of unemployment in Europe

	Incidence of long-term unemployment[1]	Youth unemployment[2]	Male unemployment	Female unemployment	Unemployment, low education[3]	Unemployment, high education[4]
Nordic						
Denmark	20.0	7.0	4.0	5.0	6.2	3.5
Finland	29.0	21.8	9.2	10.6	12.2	4.5
Sweden	26.4	11.4	6.3	5.4	5.8	3.0
Continental						
Austria	25.8	5.6	4.8	4.6	6.9	1.9
Belgium	56.3	18.2	5.3	8.3	10.3	3.5
France	42.6	23.7	8.5	11.9	11.8	5.2
Germany	52.5	7.5	7.6	8.1	15.3	4.5
Luxembourg	22.4	7.3	1.8	3.2	3.8	1.8
Netherlands	26.7	5.9	2.2	3.5	3.8	2.1
Southern						
Greece	56.4	37.7	7.5	16.9	7.3	6.4
Italy	61.3	35.4	8.2	14.6	9.0	5.3
Portugal	42.9	11.6	3.3	5.2	4.4	3.9
Spain	26.4	32.9	9.6	20.6	11.2	7.7
Liberal						
Ireland	33.1	6.9	4.5	4.2	5.9	1.8
United Kingdom	28.0	10.1	6.1	4.8	8.5	2.4

Source: OECD (2004) Employment Outlook.
[1] Share of spells of at least 12 months in duration of all unemployment
[2] Unemployment among 15 to 24 year olds
[3] Less than upper secondary education
[4] Tertiary education

Unemployment is unequally distributed also within countries (Table 2.2). First, the long duration of unemployment spells means that some individuals experience a disproportionate share of unemployment. Long-term unemployment has been a European feature of the unemployment problem. In fact, job destruction rates and unemployment incidence are both higher in the United States, but the short average duration of American unemployment spells kept their unemployment rates lower in the 1990s than in many European countries (e.g., Gangl, 2003; 2004). The incidence of long-term unemployment varied widely across Europe, from more than 50 percent in Greece, Italy, Belgium, and Germany, to 20 percent in Denmark. In some countries, unemployment rates were high among young people and women. Youth unemployment rates (both absolutely and relative to general unemployment levels) were especially high in the Southern countries of Greece, Italy, and Spain, but also in France, Finland, and Belgium. In others – such as Austria, Germany, the Netherlands, and Ireland – the gap is much smaller. Unemployment gaps can be found between male and female unemployment rates (Azmat et al., 2006). In the Southern European countries, unemployment is markedly a female problem: for example, in Greece, Spain, and Italy, male unemployment rates are more or less close to those in many other European countries; female unemployment rates, instead, are much higher. In Sweden, Ireland, and the United Kingdom, on the other hand, women's unemployment rates are lower than men's. Finally, in all countries unemployment is negatively correlated with educational qualifications. In Greece and Portugal the gap is small, but bigger in Finland, Belgium, Germany, and the United Kingdom.

2.3.2.2 Stylised explanations

There is a rather broad consensus of the structural nature on unemployment in many European countries. Sluggish job creation rates constitute an important part of the explanation (Cahuc and Zylberberg, 2004). This sluggishness also explains the long average duration of unemployment in many European countries. A common argument is that labour market rigidities and generous welfare benefits – especially when compared to the United States – contribute to the low rates of job creation and unemployment in general (e.g., OECD, 1994). Among the institutions that have been blamed for labour market rigidity are employment protection legislation (EPL), trade unions and the wage bargaining system, and generous and

long-lasting welfare benefits (e.g., ibid., Siebert, 1997; Ljunqvist and Sarget, 1998; OECD, 2004; Bassanini and Duval, 2006; Nickell, 1997; Nickell et al., 2005).[5]

The aim of employment protection legislation is to enhance employment conditions by providing legally enforceable standards that regulate the forming and dissolving of employment contracts (e.g., OECD, 2004). Accordingly, empirical research has shown that job destruction and unemployment incidence rates are lower in countries with stricter EPL (ibid.; Gangl, 2003; Goméz-Salvador et al., 2004). However, an unintended consequence of these regulations is an additional labour cost to firms. These costs can translate into lower job creation and hiring rates, especially when employers have imperfect information on future business prospects and job applicants. This may mean longer unemployment durations, as unemployed workers receive less job offers. Therefore, strict EPL can contribute to the European long-term unemployment problem (Nickell and Layard, 1999; Gangl, 2003; OECD, 2004). However, the impacts on overall unemployment rates are less straightforward. On the one hand, strict EPL reduces unemployment incidence by making it difficult for employers to fire workers, on the other, it also decreases unemployment durations (Bertola, 1990). For example, Portugal has one of the strictest employment protection laws in the OECD and the United States has the most liberal; however, the unemployment rates of these countries have been very similar for a long time (Blanchard and Portugal, 2001).

Wage setting institutions have received considerable attention in the literature (e.g., Nickell and Layard, 1999; Aidt and Tzannatos, 2002; Bertola et al., 2002; Cahuc and Zylberberg, 2004; OECD, 2004; Nickell et al., 2005; Bassanini and Duval, 2006). Wages can be set at different levels. Some wages are determined by direct negotiations between workers and firms. In other cases, trade unions take an active role in negotiating wages for their members. These negotiations can take place at the level of industries or industrial sectors, or at the national level. In the latter case these agreements cover more or less the whole economy. Different intermediate solutions are of course possible. In most European countries, trade unions engage in wage bargaining. In Finland and to a lesser extent in Ireland and Portugal, wage bargaining in the 1990s was highly centralized to the national level. In others countries (with the exception of the United Kingdom, where plant level negotiations were predominant), wages were bargained either at the industry level or both at the industry and

[5] Other institutions that have been used to explain employment and unemployment levels include product market regulation, tax systems, and home ownership (Nickell et al., 2005; Bassanini and Duval, 2006).

plant levels (OECD, 2004). Even if negotiations take place at the firm or industry level, labour market partners can set guidelines for wage negotiations, and thus coordinate wage levels at the level of the national economy. This was the case in most European countries. In some countries, wage deals negotiated at the industry level covered industries and sectors, which did not engage in the wage negotiation process. See Table 2.1 for details.

Neoclassical economic theory predicts that wage setting at the lowest possible level – that is negotiations between individual employers and employees – delivers the best employment outcomes, because individually negotiated wages are expected to best reflect productivity differences between workers and differences in competitiveness across firms. The active involvement of trade unions in the wage bargaining process, in contrast, would produce worse solutions, since unions are assumed to be mainly interested in promoting the wages of those already employed, which puts financial pressure on the companies and may price some workers out of the labour market.[6] However, other theories suggest that the picture is more complex. In their famous study, Calmfors and Drifill (1988) suggested that the relationship between centralisation and employment is non-monotonic, so that centralized collective bargaining may produce as good outcomes as wage setting at the firm level, because centralized bargaining outcomes can better reflect macroeconomic conditions and internalize the costs of wage increases across a broader spectrum of industries. In this model, wage bargaining at the sector or industry level would produce the worst employment outcomes (because of no internalising mechanisms and wage competition across unions). Thus, there would be a "hump-shaped" curve between centralization and unemployment. Active coordination of wage bargaining processes between industries and sectors can bring similar outcomes.

High union density, high coverage of bargained wage deals, and high centralisation or coordination of the wage bargaining process are closely associated with lower wage inequalities. However, the empirical evidence on their effects on employment is ambiguous. Some studies support the hypothesis of a "hump-shaped" curve, while others do not. Furthermore, it seems that centralized or coordinated wage deals have become less effective in the 1990s, suggesting that the optimal level at which wages are set depends on interactions with the economic environment and other labour market institutions. In sum, different wage

[6] This, of course, depends on whether unions include (active or potential) unemployed workers, in whose welfare the unions are interested (Cahuc and Zylberberg, 2004).

setting systems may produce similar outcomes (for reviews, Aidt and Tzannatos, 2002; OECD, 2004; Nickell et al., 2005; Bassanini and Duval, 2006).

Unemployment compensation secures workers from excessive income drops during unemployment. The level of "decommodification" provided by unemployment compensation packages and other social benefits varies notably across the OECD countries (Esping-Andersen, 1990; 1999; Korpi and Palme, 1998; Table 2.1). Accordingly, unemployment is a much stronger poverty risk factor in some countries than others (Haataja, 1999). Following the neoclassical theory of labour supply, generous unemployment benefits constitute unearned income that decreases labour supply. Therefore, one would expect that generous unemployment benefits increase unemployment. Many studies have documented how generous benefits increase unemployment duration either by reducing search effort or by allowing unemployed workers to reject job offers and search longer for a suitable match. However, these effects are rather modest by many estimates (Atkinson and Micklewright, 1991; Ljunqvist and Sargent, 1997; Gangl, 2003; 2004; Cahuc and Zylberberg, 2004; Røed and Zhang, 2006).[7]

Unemployment compensation schemes can affect unemployment durations also through other mechanisms than benefit generosity. Most unemployment compensation schemes have a limit to the duration of these benefits (Table 2.1). Empirical research on the effects of benefit exhaustion regulations have found strong effects of these regulations on unemployment exit so that the exit rate tends to peak before exhaustion of unemployment compensation (Atkinson and Micklewright, 1991; Machin and Manning, 1999; Cahuc and Zylberberg, 2004).

These three institutions are commonly used to explain European unemployment experiences. But why have European unemployment rates increased since the 1960s and the 1970s? A common explanation points to the initial shocks from the oil crises and the sluggish job creation rates (Scharpf and Schmidt, 2000; Cahuc and Zylberberg, 2004). Low rates of job creation have also contributed to the rise of long-term unemployment, which was caused by an overall decline in unemployment exit rates (Machin and Manning, 1999).

[7] On the other hand, since unemployed workers can wait longer for better job offers, generous unemployment compensation decreases the short- and long-term "scar effects" of unemployment (Gangl, 2003; 2004; 2006).

Institutional explanations of European unemployment seem to confront an apparent paradox: the institutions discussed above have remained rather stable since the 1960s, whereas unemployment rates have increased since then. According to one line of research, European labour market institutions have in fact changed enough since the 1960s to explain this paradox (Nickell et al., 2005). Others have suggested that the rigid European labour markets cannot absorb technological, economic, and labour supply shocks (Katz and Autor, 1999; Blanchard and Wolfers, 2000; Cahuc and Zylberberg, 2004). The latter argument has also been used to explain the divergence in economic inequalities between the United States and Europe, with the former showing higher increases in wage inequality and the latter in unemployment. Although the discussion seems to be going on, one should recognize the wide heterogeneity across European countries, their institutions, and unemployment experiences: the unemployment record of a number of European countries has in fact been better than the American one.

The discussion has so far concentrated on the institutional background of overall unemployment performance in Europe. However, it is important to notice the possible distributional effects of labour market institutions. First, some scholars have argued that EPL is positively associated with temporary employment (OECD, 2002; 2004; Polavieja, 2006). In the late 1990s, temporary contracts were rare in Ireland and Luxembourg, whereas fifteen percent of French and Finnish, twenty percent of Portuguese, and a third of Spanish workers had fixed-term contracts (OECD, 2002). Two-layered EPL (with strong protection for core workers and more flexible legislation governing temporary employment) together with unemployment shocks and a medium level of centralisation/coordination in wage setting seems to increase the prevalence of temporary contracts.

Second, it has been argued that a strong role for unions in wage setting and stringent EPL may reduce the employment for groups at the margin of employment, including young and older workers, women, immigrants, and low-skilled workers (Esping-Andersen, 2001; Bertola et al., 2002; DiPrete et al., 2006; Kahn, 2007). Similar effects can be assumed of unemployment compensation: one can argue that generous unemployment compensation reduces the labour supply of those whose supply is the most elastic and whose opportunity costs of unemployment are the lowest. Finally, labour market institutions and discriminatory attitudes by employers can affect the gender gap in unemployment (Azmat et al., 2006). Employers

may prefer male workers to female workers. Furthermore, these preferences can "flourish" in situations in which there are high unemployment and long queues for jobs.

2.3.3 Female employment in Europe: stylised facts and explanations

2.3.3.1 Stylised facts

Labour force participation and employment rates varied widely across European countries (Table 2.3). The norm of male employment remains rather strong in Europe: in every country, more than 70 percent of men were in the labour market. However, there is still surprisingly wide variation in male participation levels across Europe. Consequently, there have been increasing concerns of the rise in the inactivity among prime-aged men (Faggio and Nickell, 2003; Clasen et al., 2005).

Despite the variation in male participation, the main source of variation in European labour force participation rates comes from the variation in female participation. Three fourths of Danish and Swedish women participate in the labour market, and in Sweden, the gender gap in participation is less than 5 percentage points. In Italy, in contrast, the female participation rate is below 50 percent, and the gender gap close to 30 percentage points. Low female participation rates combined with high female unemployment rates brought female employment rates down to below 50 percent in the Southern European countries (with the exception of Portugal). The female employment rate was between 50 and 60 percent also in the Continental European countries and Ireland. Many women also work less hours than men. The part-time employment rate was especially high in the Netherlands and the United Kingdom.

Female employment rates relate directly to the prevalent breadwinner model in each country. The high female employment rates in the Nordic countries translate to a high share of dual earner couples. In contrast, the male breadwinner couple remained common in Southern Europe.

Table 2.3. Labour force participation and employment indicators in Europe, 1999

	Male participation rate	Male employment rate	Female participation rate	Female employment rate	Part-time employment, women [1]
Nordic					
Denmark	85.2	81.2	75.8	70.9	24.0
Finland	77.6	70.2	71.3	63.7	13.9
Sweden	79.3	73.3	74.6	69.5	21.4
Continental					
Austria	80.6	77.6	62.2	59.8	24.4
Belgium	72.1	65.9	58.1	50.1	34.5
France	75.3	68.2	62.7	54.7	24.9
Germany	80.5	73.9	63.3	57.9	33.9
Luxembourg	-	-	-	-	28.4
Netherlands	83.1	80.9	64.4	61.5	57.2
Southern					
Greece	75.0	68.3	50.4	41.3	9.5
Italy	75.3	68.8	46.0	38.8	23.4
Portugal	83.1	79.9	66.1	62.8	14.9
Spain	78.4	69.8	50.6	38.5	16.5
Liberal					
Ireland	80.4	75.7	54.9	51.8	33.0
United Kingdom	82.8	77.2	67.6	61.4	40.8

Source: OECD Online Labour Force Statistics; OECD (2004)

[1] Share of workers working reduced hours, national definitions (OECD, 2004).

2 Share of workers on fixed-term contracts of all employment, 25-55 years

2.3.3.2 Stylised explanations

The gender gap in employment was for a long time supported by the gender gap in educational attainment. The gradual closing of the latter promoted the closing of the former. In fact, recent cohorts of women have taken over men in educational attainment in many countries (Buchmann and DiPrete, 2006). The gap in education was not, of course, exogenous to the employment gap. Women were expected, and they expected themselves, to remain more tied to the home than the labour market. Previously, women did not have similar career possibilities as men, and before the contraceptive revolution, they could not control their fertility very efficiently (e.g., Hakim, 2000; 2003; Blossfeld and Drobnič, 2001). Changes in gender roles, contraceptive techniques, and employment opportunities led women to invest more on education, and to enter the labour market more fully. Despite the female takeover in education levels, a gender gap in employment remains. Women receive lower wages than men. And because women remain more tied to the household than men, women's labour supply is more responsive to wages (Blau and Kahn, 2006; see next chapter). These two factors promote the gender employment gap.

Cross-national differences in family models, employment opportunities, wage structures, and policies targeted at lessening women's family obligations can be used to understand comparative variation in female employment. In the 1990s, the family system remained more traditional in Southern European countries and in Ireland than in Nordic countries. The United Kingdom and Continental regime can be found to lie somewhat in between (e.g., Gallie and Paugam, 2000; Hakim, 2003). Despite rapid convergence, the European variation in family values, such as male-female orientations to work and family life, and views on male and female roles during parenthood and job shortages, remained apparent (e.g., ISSP, 1994; Hakim, 2003; Algan and Cahuc, forthcoming). Some scholars have linked these differences to the legacies of Catholicism and Protestantism (Siaroff, 1994). According to popular understanding, this variation in family values is at the root of the variation in female labour market activity. Empirical research has produced some supporting evidence (Algan and Cahuc, forthcoming).

However, many non-employed European women express wishes to work (Jaumotte, 2003). Whether they can do so often depends on policies targeted at reducing the caring obligations of mothers. These policies have received major interest in the literature. Childbirth is a big divider in the employment of European mothers (Daly, 2000; Blossfeld and Drobnič, 2001).

For some women, childbirth does not induce a major career break, whereas for others it may mean a long spell outside employment. Public policies play a major role in shaping the effects of childbirth on female employment. Of specific importance in this regard are parental leave policies that enable mothers to remain attached to work even during pregnancy and the first months (or years) of the child and childcare policies that decrease the care burden of mothers and enable them to take up market work (e.g., Gornick et al., 1998; Ruhm, 1998; Jaumotte, 2003). The Nordic countries, but also Belgium and France, have extensive policies that promote the employment of mothers. These policies have been developed more recently in other countries as well. Public policies promoting mother's employment were more marginal in Ireland, the United Kingdom, and in Southern Europe (Gornick et al., 1997; Bettio and Prechal, 1998; Esping-Andersen, 1999).

Finally, changes in the structure of the economy and in particular, the increase in service-sector jobs ("postindustrialisation") can help to explain the rise in female employment. Several researchers have argued that service-sector jobs are more attractive to women than manual industrial ones (Esping-Andersen, 1999; Daly, 2000; Mandel and Semyonov, 2006). The market or the state can be a provider of such jobs. Regardless of the provider, women are clearly over-represented in many parts of the service sector. The private sector has been a big provider of service-sector jobs in countries like the United Kingdom, and its role has increased elsewhere. However, the public service sector, and the often more "female-friendly" employment conditions it provides, has played a major role in employing women in Northern European countries (Esping-Andersen, 1999). Consequently, female employment and occupational gender segregation are both higher in countries where the welfare state has a stronger role as an employer (Mandel and Semyonov, 2006).

Service sector jobs often pay less than production jobs. This has promoted the gender gap in wages. On average, women earned 70 to 90 percent lower wages than men in Europe of the 1990s (EIRO, 2002). Blau and Kahn (2003) argued that since women are at the bottom of the wage distribution, highly centralised and unionised wage bargaining processes with high coverage reduce the gender pay gap. This can increase female participation (Bertola et al., 2002). Whether this translates into higher employment or not depends on the labour market institutions that affect the gender gap in unemployment. These issues were discussed in the last section.

2.4 Conclusions

In this chapter, I provided a background for analysing dual joblessness in Europe. In the second section, I discussed the role of unemployment, joblessness, and the family in theories of social inequality. Many major sociological theories on social stratification have focused on issues of social class and intergenerational class mobility. Proponents of these theories have often had a hard time fitting unemployment into their schemes. However, unemployment is clearly an important feature of modern labour markets and has important welfare implications. The implications of unemployment depend on the family context in which it occurs. For example, dually jobless couples have very high rates of poverty and the polarisation of employment across households has contributed to rising income inequalities. Therefore, analysis of the distribution of work and worklessness across families is important in understanding current social inequalities.

In the third section of the chapter, I used the discussion on welfare regimes to approach European national differences. I divided European countries into four welfare regimes, the Nordic, the Continental, the Liberal, and the Southern regimes. These regimes differ in their family systems, labour markets, and welfare states. These institutions affected European unemployment and employment patterns. They also have direct implications on the spread and experience of dual joblessness (see Chapters 5 and 7).

I then moved on to discuss the European experiences in unemployment and employment in the 1990s. Unemployment rates varied widely across Europe during the last decades. In many countries, unemployment was unequally divided across social groups, with youths, women, and less educated workers experiencing high unemployment. Furthermore, long-term unemployment rates were high in many Continental and Southern European countries. Previous research has discussed the role of employment protection legislation, wage-setting institutions, and unemployment benefit systems for European unemployment. The empirical evidence regarding their impacts on unemployment levels appears partly contradictory, although many researchers have claimed that “labour market rigidities” involving strict regulation of employment contracts and wages and generous unemployment benefits have increased European unemployment. These institutions can also affect the distribution of unemployment (Esping-Andersen and Regini, 2001). Generous and long-lasting benefits and market regulations that depress the growth of jobs can increase unemployment durations.

Similar market regulations can also reduce the employment levels and security of workers at the margin of employment.

Female employment rates have increased throughout Europe during recent decades. However, important cross-national differences remained. European differences in family models, family policies, and economic structures and employment opportunities assist us in understanding this variation. Northern European ("Protestant") family models tend to be less traditional than Southern ("Catholic") models when it comes to female employment, and especially the employment of mothers. The former countries also have more extensive family policies that help women combine work and motherhood. Finally, employment opportunities and wage structures can affect female labour force participation. Service sector jobs can be more attractive to women than production jobs. Private services provide more jobs for women in the United Kingdom than elsewhere in Europe. In Nordic countries, the welfare state employs many women. Wage compression by collective bargaining can increase women's employment incentives. However, they can also be discriminated against by employers in hiring decisions, as was discussed in the second part of the third section to this chapter.

3 LITERATURE REVIEW

3.1 Introduction

There is a massive literature on labour supply. Labour economists have been mainly interested in estimating the elasticity of labour supply, that is, the responsiveness of labour supply to wages and other incomes. Sociologists have been less interested in the elasticity of labour supply, but more interested in other factors determining work, careers, and occupational success. Many of the theories of labour supply and work have been expanded to cover the labour supply of families. Labour economists have been mainly interested in questions of family labour supply elasticity, but also in the division of work in families. Sociologists have studied the family factors that affect employment and careers, but have also analysed issues of work-family balance. In the second section of the chapter, I explore the main literatures on the labour supply of individuals and of families, and discuss some sociological work in these fields.

Previous research on dual joblessness has mainly asked why the wives of the unemployed supply less labour than wives whose husbands work. Some studies have broadened this interest to cover both spouses. I surveyed the main descriptive results in Chapter 1. Scholars have given various explanations to this puzzling issue. I present the main explanations in the third section of the chapter.

3.2 Approaches to the labour supply of individuals and couples

3.2.1 Approaches to the labour supply of individuals

According to the neo-classical model, labour supply is the result of the maximization of a utility function consisting of consumption and leisure (non-working time) (Killingsworth, 1983; Blundell and MaCurdy, 1999; Cahuc and Zylbenberg, 2004). Both consumption and leisure have their price: leisure because it is time away from work. Labour supply is affected by two mechanisms, the income effect and the substitution effect. The income effect works through changes in total real incomes, and the substitution effect through changes in the price of leisure. If leisure and consumption are normal goods, an increase in incomes increases both consumption and the time spent on leisure, and decreases labour supply (the income effect). If total real incomes remain constant, an increase in the hourly wage rate increases consumption, but it decreases time spent on leisure due to an increase in the cost of leisure, and thus it increases labour supply (substitution effect). The net effects of the income effect and the

substitution effect determine the wage elasticity of labour supply. Other things being constant, an increase in wages may either increase or decrease labour supply, depending on the relative strengths of the income and the substitution effects. The theory predicts that the wage elasticity of labour supply decreases at higher wage levels; that is, individuals commanding low wages are more likely to opt for more consumption produced by an extra hour of work than an extra hour of leisure. Since an increase in other incomes does not change the cost of leisure, this change has only an income effect, and thus always decreases labour supply. Given incomes, different individuals may prefer different combinations of consumption and leisure, depending on their preferences. This general framework has been expanded to cover such areas as life-cycle labour supply, collective labour supply of the household and household production (discussed below), and can be expanded to cover situations in which individuals draw other utility from work than just incomes and where decisions of hours worked are restricted by external factors (such as legislation).

An important extension of the neoclassical labour supply model concerns job search (Cahuc and Zylberberg, 2004; Eckstein and van der Berg, 2006). While the literature also covers on-the-job search and two-sided search (both by workers and employers), I concentrate here only on job search by the unemployed. The job search literature extends the basic labour supply model by acknowledging that job search takes time and resources, because the seekers do not have perfect information on all the jobs available. In other words, the literature acknowledges the status of unemployment separately from non-employment and employment, unlike the "pure" neoclassical model. To become a job seeker, that is, to participate in the labour force, one first has to want employment. The decision to participate depends on the reservation wage (the highest wage at which the individual would not work), which depends on the utility she or he derives from not participating (including the value of leisure, the non-earned incomes available, and the fixed costs of working). Once the individual decides to participate, his or her job searching time depends on his or her reservation wage, search intensity, and the arrival rate of job offers. Finally, the individual is expected to take up employment when the wage offered from a particular job exceeds the reservation wage.

Empirical work on labour supply has reached some general conclusions (Heckman, 1993; Blundell and MaCurdy, 1999; Cahuc and Zylberberg, 2004). Unearned incomes mainly reduce labour supply, even though this unearned income elasticity is generally smaller than wage elasticity. The effect of wages, however, is more complex, as predicted by the

neoclassical model. First, the wage elasticity of labour supply is the greatest at the margin, that is, when the individual decides whether to work or not. In fact, most of the wage elasticity of a group depends on variation in the participation rate. In line with the neoclassical model, an increase in wages increase the hours worked at a certain wage level, after which the hours worked decrease.

Empirical work on job search, which has often analysed the determinants of unemployment duration, has added to these results by showing how the job offer arrival rate is a very important determinant of unemployment duration, as the acceptance rate of job offers is high. This result explains the long-term nature of unemployment in European countries with low job creation rates (see the previous chapter). The elasticity of the reservation wage and unemployment duration to unearned incomes (such as unemployment benefit) is positive, as expected, but rather modest in size. The elasticity of unemployment duration to the duration of unemployment compensation is also positive, that is, longer lasting unemployment benefits tend to produce longer unemployment spells. Furthermore, there is an apparent peak in the unemployment exit rate around the exhaustion limit of unemployment compensation. Although unemployment exit rates decrease by the duration of unemployment, there is little evidence of any substantial duration dependency; instead, heterogeneity plays a bigger role (more employable workers exit unemployment faster). (Atkinson and Micklewright, 1991; Machin and Manning, 1999; Cahuc and Zylberberg, 2004; Eckstein and van der Berg, 2006.)

A crucial factor affecting the labour supply of an individual is the amount of human capital she or he possesses. According to human capital theory (e.g., Mincer, 1974; Becker, 1975), human capital (generally seen as consisting of education and work experience)[8] increases worker productivity. Higher levels of productivity translate into a higher value on the labour market, more stability, more and better wage offers, and thus higher employment and lower unemployment (Mincer, 1991).

Empirical work on labour supply has also reported that women's labour supply is more elastic than men's. This higher elasticity applies both to own wages and unearned income (including the wages of a spouse). This is usually explained by the division of labour in the family, where women have more responsibilities in housework and caring for children. Housework

[8] Work experience is commonly further broken down to general and sector-specific experience. In a similar way, education can be general or more specific education.

and childcare are closer substitutes for market work than leisure, and the substitution effects of wages are higher for women (Blau and Kahn, 2006). Consequently, women's labour supply is reduced by marriage and especially childbearing, whereas marriage and parenthood can increase the labour supply of men (Mincer, 1962; Becker, 1981; Lundberg, 2005).[9] This prediction relies on the traditional division of paid and unpaid labour within households. As the traditional family model has become weaker, the elasticity of female labor supply has approached that of men (Blau and Kahn, 2006; for the United States). There is also heterogeneity among women. Hakim (2000; 2004) has argued that women can be roughly divided into three groups according to their work-family preferences. The work-oriented (10-30 percent of women, depending on the country) prefer to work, and their labour supply is rather inelastic to economic incentives. In contrast, the labour supply of women in the adaptive group (40-80 percent of women) is highly elastic. Family-oriented women (10-30 percent of women) prefer not to work. These women also react weakly to policy incentives. In this framework, there may have been a shift towards work-centeredness in the last decades. The discussion on female labour supply is closely linked to the discussions on the labour supply of families. I next discuss approaches to the labour supply of couples.

3.2.2. Approaches to the labour supply of couples

The discussion so far has approached labour supply from an individual point of view. Moving on to the labour supply of couples, we can ask whether or not coupled labour supply patterns are just the aggregates of the labour supply decisions of the partners, or something different. Family labour supply theories argue in favour of the latter (e.g., Killingsworth, 1983: 29-38; Blundell and MaCurdy, 1999). One of the reasons is that individuals can spend their time off work in household production (cooking, cleaning, and caring for children), instead of just "pure" leisure. Furthermore, couples can decide on the division of paid work, housework, and leisure collectively.

The predominant economic approach to household labour supply – the "common preference model" (Lundberg and Pollak, 1996) – assumes that a household is a single unit of consumption and labour supply, and that decisions of labour supply are made collectively or by a household head. In this model, the couple supplies labour so as to maximize the common utility function of the household, and tasks between paid work and unpaid work at home

[9] Empirically, the effects of marriage and childbearing on female employment have decreased (Blossfeld and Drobnič, 2001).

("leisure") are rationally divided according to the productivity of each member in each sphere (Becker, 1981). This theory predicts that as the value of the time spent at home increases – for example, because of children – the incentive for a division of tasks increases accordingly. In practice, the theory predicts that the partner with higher wages increases labour supply, while the other (who is – usually implicitly – assumed to also have a relative advantage in housework) decreases labour supply. In the extreme case, one partner specializes in paid work, while the other withdraws from the labour market to concentrate on household tasks. Since it is commonly assumed that women have higher relative productivity at home than men, this model has been used to explain gendered divisions of labour (Becker, 1981) and the higher income elasticity of women's labour supply (see above).

There have been many critiques of this model. Many scholars have criticized its essentialist gender assumptions. Another problem is that the model assumes a common utility function, without explaining why two individuals with separate utilities outside the partnership combine their utilities as a couple (Bourguignon and Chiappori, 1992: 356). If we ultimately assume an individual utility function instead of a common one, can we still expect partners to behave collectively, or at least interdependently? A case for assuming collective or interdependent behaviour can be made by referring to affection, and conventions and norms that regulate partnership practices. Another argument emphasises the utility both partners attain from collective behaviour (see, for example, Becker, 1981). However, an increase in the common utility can demand decisions, which are not individually rational in the short- or in the long-run. For example, a wife withdrawing from the labour market for the common good of the family may regret this in the occurrence of a divorce. Theories of partnerships as contracts (England and Farkas, 1986) or bargaining situations (McElroy, 1990; Lundberg and Pollak, 1996), have suggested situations in which partners may behave less egoistically.

These approaches view partnership as a bargaining situation, or a more or less explicit contract, in which spouses maximize their personal utility functions and take into account their utilities in other situations both inside and outside the partnership. However, even though the models assume individual utility functions, they predict at least some resource sharing, contributions (monetary or non-monetary) to the public good, and interdependent behaviour. First, the spouses may have an interest in each other's welfare. Second, contributions may be individually rational if they include expectations of reciprocity. Such expectations may be set explicitly by collective decisions, or implicitly through engagement in a long-term partnership

that involves favours and counter-favours (England and Farkas, 1986; McElroy, 1990; Lundberg and Pollak, 1996). The incentives for interdependent or collective decision-making increase when the couple has common interests (for example, children), or partners have realistic expectations of future reciprocity. Therefore, the decision to be a housewife may be economically rational if she can expect the husband to provide for her now and in the future, for example because of a low risk of divorce.

Most econometric studies on family labour supply have used variations of the "common preference" of "unitary" model of family labour supply (Blundell and MaCurdy, 1999: 1670). These studies have generally been interested in own and cross-spouse wage elasticities, and generally found the gender differences already reported above. The estimation of bargaining models is more complicated, and there has been less work on them. However, a result from several studies is that the consumption pooling assumption is indeed too strict, and may only describe the behaviour of some groups, such as families with little children (see Blundell and MaCurdy, 1999 for a review). For example, Lundberg (1988) reported that the common preference model did not describe the labour supply of couples without children, whereas spouses with small children had strong interactions between their labour supplies and strong cross-spouse wage elasticity.

Outside economics, the labour market patterns and trajectories of families have been of considerable interest to sociologists. This literature has had less interest in estimating own and cross-spouse wage elasticity, and more interest in the cultural forms governing the division of labour, work-family strategies, and the accumulation of advantages and disadvantages across families (e.g., Gerson, 1985; Becker and Moen, 1999; Blossfeld and Drobnič, 2001; Moen, 2003; Moen, 2003a; Jacobs and Gerson, 2004). Given the increases in the dual-earner family model, much recent research has paid attention to the time limits such couples face and their heterogeneous ways of balancing between work and family life (e.g., Becker and Moen, 1999; Jacobs and Gerson, 2004). Couples use different strategies to achieve this balance, for example by concentrating only on the career of one spouse, by putting the family before work in terms of work hours, moving, and the like, and by trading off the spouses' aspirations at different stages of the life course (Becker and Moen, 1999). This literature has also constantly shown how these strategies are gendered – so that, for example, women do most of the scaling back and regard themselves mainly as secondary earners (also, Hakim, 2003) – and

constrained by cultural presumptions and institutional configurations that structure the life course (Moen, 2003a). I discuss some of these gendered mechanisms more in Chapter 6.

A literature of particular interest here concerns the changing inequalities produced by the rise of the dual earner family model. The edited volume by Blossfeld and Drobnič (2001) provides the largest study in this field. The authors reported how marriage, childbearing, and the educational and occupational resources of the husband affect the employment and occupational transitions of wives differently across time and between countries. In general, the link between marriage, childbearing, and the male breadwinner family model has become weaker, and all but disappeared in a number of countries. Furthermore, the effects of the resources of the husband have changed. In many countries, an employed and successful husband has now a positive effect on his wife's career, a result the authors interpreted as reflecting the possibilities of mutual support through encouragement and human and social capital.

3.3 Previous research

3.3.1 Analytical approaches to studying dual joblessness

In what follows, I go through the theoretical explanations given to dual joblessness and the accumulation of unemployment and non-employment into couples. As mentioned in the introduction, previous research has focused on explaining why "unemployment comes in couples", that is, why the jobless have a higher likelihood of having a jobless spouse than the employed. More specifically, most studies have looked into the low participation rates of the wives of unemployed (or jobless) husbands. Table 3.1 below gives information on the studies appearing in this review. Previous reviews of the literature have been made by Cooke (1987) and Ström (2003).

Almost unexceptionally, previous studies with quantitative data have approached the question through individual workers and their spouses. Leaving out individual subscripts, a common specification of the empirical model is of the following type:

$$y = \alpha + \beta UE_{spouse} + \varphi X + \varepsilon \qquad (3.1),$$

where y is employment (or participation) status, α is the constant term, UE_{spouse} is a dummy variable indicating whether the spouse is unemployed (or jobless), X is a set of control variables, β is a vector of parameters, and ε is an error term.[10] Often, the analysts have been interested in estimating whether β is statistically significant, and whether it remains so after introduction of the controls. The remaining association has been at times called a "true cross-spouse effect" (e.g., Davies et al., 1994). These cross-spouse effects indicate that joblessness affects the employment status of the spouse, either through economic factors or something else (for explanations, see below). While most previous studies have used static models, the framework has also been extended to cover employment dynamics.

A negative effect of unemployment of the husband on the wife's employment has been reported in several studies, including Henkens and associates (1993), Davies and associates (1994), and De Graaf and Ultee (2000). Maloney (1991) found that transitory unemployment of the husband does not have an effect on the participation propensity of the wife, but conditional on participation, reduces her propensity of employment. Furthermore, he found that permanent unemployment of the husband does increase his wife's participation, but that the employment effects are negative due to her higher unemployment rates once in the labour force. De Graaf and Ultee (1991) reported that unemployment of the husband increases the wife's transitions from employment to unemployment, and decreases transitions from unemployment to employment. They also found similar cross-spouse effects on the transitions from employment to unemployment of husbands (effects of the wife's status on the employment of the husband were also reported in De Graaf and Ultee (2000)). Bingley and Walker (2001) found that unemployment of the husband decreased the participation of the wife, mainly by decreasing her propensity of being in part-time employment.

There have also been opposite results. For example, Lundberg (1985) reported that transitory unemployment of the husband increased her wife's employment. Stephens (2002) found a strong long-term increase in the wife's labour supply after the job displacement of the husband. Furthermore, many studies have found wide cross-national differences (Dex et al., 1995; De Graaf and Ultee, 2000; Iacovou, 2001; McGinnity, 2002). For example, McGinnity (2002) found a positive correlation between the statuses of spouses in the United Kingdom but

[10] Some studies have also included corrections for unobserved factors (e.g., Davies et al., 1994; Giannelli and Micklewright, 1995; Bingley and Walker, 2001).

not in Germany, which resulted from the lower employment entry rates of the wives of unemployed husbands in the former.

An alternative to the "individual approach" to studying dual joblessness is to use the couple as the unit of analysis. Here, the dependent variable is the joint labour market status of the couple, and the basic empirical model is

$$y = \alpha + \beta X + \varepsilon \qquad (3.2),$$

where y is the employment status of the *couple*, α is a constant, X are a set of variables determining the coupled employment status, β is a vector of parameters, and ε is the error term. The employment status of the couple can be, for instance, a four-category choice variable, which is the combination of the employment versus non-employment statuses of the spouses. This is also the baseline classification used throughout this dissertation. I discuss the dependent variables used in each analysis in more detail in Chapter 4.2.3 and the empirical chapters.

This approach enables a direct measurement of the employment status of the couple. The approach is suitable given my primary interest in the joint labour market statuses of couples *per se*, instead of the (closely related question of) the associations between the labour market statuses of partners.[11] The usefulness of this approach will become clear in the empirical chapters, where the need for a direct measurement of coupled labour market statuses is crucial.

The approach has theoretical appeal as well. A problem with the individual approach is that the labour market status of the spouse is usually treated as an exogenous factor.[12] To the extent that couples make joint or interdependent labour supply decisions, as discussed in the second section of this chapter, estimates of the effects of the labour market status of the spouse are biased.[13] The joint approach relaxes this exogeneity assumption. As discussed by

[11] In fact, as shown by Lundberg (1985), Blau (1997, 1998), and Blau and Riphahn (1999), the joint approach can be also used to analyse the associations between spouses' labour market statuses and dynamics.
[12] Furthermore, most studies that take unobserved factors into account only control for fixed unobserved effects.
[13] This is because in such a case both statuses are determined simultaneously, leading to a correlation between the labour market status of the spouse and the error term in equations like 3.1 (e.g., Wooldridge, 2002: 51). For example, couples may decide jointly that only the husband takes up paid work while the wife remains at home. Estimating wives' labour supply with models such as 3.1 would likely lead one to overemphasise the effect of

Blau and Riphahn (1999: 233), such a model also relaxes the assumption of a joint utility function of the couple; instead, the combined labour market status of the couple can result from a combination of independent, interdependent, and joint decisions. The parameters *X* can reflect some combination of the preferences of the spouses and their relative bargaining powers.[14]

Lundberg (1985) used this approach to study the employment dynamics of the wives of unemployment men. Blau (1997; 1998; Blau and Riphahn, 1999) and Jiménez and associates (1999) used it to study the joint retirement behaviour of couples. They also showed how the approach can be used also to analyse interdependencies between spouses' labour market behaviour.

3.3.2 Explaining dual joblessness and joblessness accumulation into couples

3.3.2.1 Introduction

In this section, I go through the main explanations given to dual joblessness. These explanations follow the overriding interest in the employment patterns of the wives of unemployed men. They are roughly divided into explanations that stress the common characteristics and economic environments of the partners ("by-product" explanations (Ultee et al. (1988)) and explanations that attempt to understand "true cross-spouse dependency".

I first discuss two "by-product" explanations, namely marital homogamy by human capital and the labour markets conditions shared by couples. I then go through a number of explanations for "true cross-spouse dependency". These discussions focus on the micro-level mechanisms of dual joblessness. As mentioned in the Introduction, there has not been much comparative work. The majority of explanations of the cross-national differences have concentrated on the variation in social benefit systems, and in particular, the role of means testing. I discuss these explanations below.

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the husband's employment on her labour supply – in other words, was the husband jobless, we would expect the wife to work more than she might in reality. The chances for such misinterpretations are the more likely if couples avoid female breadwinning, as analysed in Chapter 6 and discussed below in Chapter 3, Section 3.2.9. It is also important to notice that controlling for fixed unobserved factors in Equation 3.1 does not solve the problem. An option could be to use unanticipated unemployment (for example, involuntary job displacements (cf. Stephens, 2002)) as an instrument for unemployment of the husband. A problem with such an approach is that even many seemingly sudden displacements may often be anticipated (because of a downturn of the economy, for instance), and wives may thus respond to such anticipation beforehand.

[14] A more sophisticated specification could be based on bargaining models of coupled labour supply (e.g., Bourguignon and Chiappori, 1992). However, such models demand a lot from the data and are difficult to estimate.

Table 3.1. Background information on previous studies on dual joblessness

Author(s), (year)	Country / Countries	Time period covered	Data source and type	Sample size	Unit of analysis	Main method	Focus
Barrère-Maurisson et al. (1985)	France	Late 1970s, early 1980s (?)	Four samples	Varying sizes, (20-2,000)	Women	Qualitative interviews	Family and women's careers
McKee and Bell (1985)	Britain	Early 1980s	Sample of unemployed partnered fathers	45 couples	Couples	Qualitative interviews	Unemployment and family relations
Morris (1985)	Britain	1982	Male redundant steelworkers	40 men and their families	Couples	Qualitative interviews	Male job loss and family
Lundberg (1985)	USA	1969-73	Experimental, survey	1,081 families	Couple	Event-history	AWE
Ultee et al. (1988)	Canada, Netherlands, USA	1981	Files from labour force surveys	Several 10,000s / country	Individual partner	Loglinear models	Explain positive association
Kell and Wright (1990)	Britain	1983	Surveys	2,051 women	Wife	Probit	Benefits and wives' labour supply
De Graaf and Ultee (1991)	Netherlands	1980-86	Survey	2,051 couples	Individual partners	Event-history analysis	Associations between spouses' transitions
Maloney (1991)	USA	1982	Survey	1,958 couples	Individual (wife)	Regression	AWE
Henkens et al. (1993)	Netherlands	1985-6	Survey	22,352 married couples	Individual partner	Logit	Explain positive association
Davies et al. (1994)	Britain	1970-86	Survey	1,171 couples	Wife	Logistic	Explain association
Dex et al. (1995)	Britain, USA, Ireland, Sweden, Denmark	1980s (varies)	Surveys	8,476 women (from 528 in SWE to 2,759 USA)	Wife	Logit/probit regression	AWE, benefit and tax systems
Giannelli and Micklewright (1995)	Germany	1984-8	Survey	2,021 married women	Wife	Conditional logit model, event-history	AWE, means tested benefits

Table 3.1 (continued).

Doris (1998)	Britain	1983-4	Survey	1,727 couples	Wife	Fixed-effects logit, event-history, mover-stayer	AWE, means tested benefits
Halvorsen (1999)	Norway	1995	Survey	1,425 individuals	Individual partners	Logistic regression	Association between statuses
Nordenmark (1999)	Sweden	1992-6	Register, survey	~2,500 individuals	Individuals	Logistic regression	Association between statuses
Cullen and Gruber (2000)	USA	1984-8, 1990-2	Survey	2,560 married couples	Wives	OLS, tobit, heckit	Unemployment compensation
De Graaf and Ultee (2000)	12 EU countries	1994	Survey	19,408 couples	Partners	Logistic regression	Association between spouses
Bingley and Walker (2001)	Britain	1978-92	Survey	43,351 married couples	Wives	Unordered probit	Benefits
Gregg and Wadsworth (2001)	Britain	1975-2001	Survey	N.A.	Partners	Decomposition	Polarisation
Iacovou (2001)	14 EU countries	1999	Survey	24,606 couples	Partner	Decomposition	Polarisation
McGinnity (2002)	Britain, Germany	1991-7 (UK), 1988-93 (D)	Survey	1,279 (UK), 1,199 (D)	Wife	Event-history	Means tested benefits
Stephens (2002)	USA	1968-92	Survey	5,422 couples	Wife	OLS, tobit	Impact of male lay-off or wives' employment and hours
Clark (2003)	Britain	1991-7	Survey (BHPS)	9,461 individuals	Individuals	Ordered probit, fixed-effects logit	Impact of own and others' unemployment on psychological well-being and vice-versa
Dorsett (2005)	Britain	2000-1	Experiment, survey	1,103 couples	Couple	DID, matching	Evaluation of policy change

3.3.2.2 Partner selection and homogamy

The well-known tendency of selecting partners within or close to one's group (status, religious and ethnic) is a common indicator of the openness of social structure (Kalmijn, 1998: 396). One of the consequences of marital homogamy is an enforcement of social inequalities produced elsewhere – such as the labour market – through the accumulation of social (dis)advantages into families. Many researchers have sought to explain joblessness accumulation into families with homogamy by human capital. Sociologists have often focused on homogamy as a central explanation (Ultee et al., 1988; Henkens et al., 1993; Halvorsen, 1999; De Graaf and Ultee, 2000), whereas many economists have used it as a control variable in their overarching interest in the effects of incomes.

The effects of partner matching according to education have received the most attention (e.g., Ultee et al., 1988; Henkens et al., 1993; De Graaf and Ultee, 2000). Homogamy by education is an important aspect of modern marriage markets, and recent results suggest that educational homogamy is on the increase (Blossfeld and Timm, 2003).[15] Homogamous tendencies are strong also according to age (which is often used to proxy experience in empirical studies on labour supply). In both cases, not only preferences, but also the social settings in which people meet affect the level of homogamy.

Several studies on coupled joblessness have sought to explain the phenomenon with homogamy by education, but also by age and occupation (e.g., Ultee et al., 1988; Henkens et al., 1993; Halvorsen, 1999; Nordenmark, 1999; De Graaf and Ultee, 2000). A common result is that homogamy provides a partial, but important explanation. Marriage markets thus aggravate the inequalities produced in the labour market. An exception to this agreement is the study by Henkens and colleagues (1993) from the Netherlands, which did not find that shared characteristics played an important role.

In addition to education and age, one can also think of homogamy according to other, often unobserved, factors. These include cognitive ability, personality traits, family background, and work preferences (e.g., Maloney, 1991: 185, n. 4; Nordenmark, 1999; Dronkers, 2003).

[15] Reasons for this include the changes in women's roles – making female socio-economic resources more attractive to men than previously – and increases in the duration of education, lengthening the importance of the educational system as a marriage market (Becker, 1981; Kalmijn and Flap, 2001; Blossfeld and Timm, 2003).

Nordenmark (1999) incorporated variables on work attitudes to his analysis of Swedish couples, but did not find any support for this accumulated low work morale –hypothesis.

3.3.2.3 Local labour market conditions

There can be important regional variation in dual joblessness, as documented by Gregg and Wadsworth (2001) in the case household joblessness in Britain. Local labour market conditions may contribute to dual joblessness in two ways. First, local labour market problems – such as a shutdown of a major employer in town – can affect both spouses' unemployment risks and their chances of finding a job. Second, local labour market conditions can decrease labour market participation through the so-called discouraged worker effect. In case of inferior labour market conditions, the individual (or the spouses) may view job search as not worthwhile or too costly, and withdraw from the labour market.[16]

Previous studies have used "local" unemployment rates, whether regional or country, as measures of local labour market conditions. Many studies have reported that local unemployment rates decrease employment propensities, and contribute to explaining the association between spouses' employment statuses (e.g., Ultee et al., 1988; Maloney, 1991; Henkens et al., 1993; De Graaf and Ultee, 2000; Bingley and Walker, 2001). Other studies did not find significant effects (e.g., Dex et al., 1995).

Maloney (1991), and Bingley and Walker (2001) decomposed this effect into the discouraged worker effect and the difficulties in getting a job in their analyses of the employment of the wives of unemployed men in the United States and in Great Britain, respectively. The results suggest that the discouraged worker effect plays a stronger role, possibly because of the high the labour supply elasticity of married women.

3.3.2.4 The Added Worker Effect

The Added Worker Effect (AWE) is the most sought after effect in the economic literature on the labour supply of the wives of unemployed men. The core of this hypothesis is that such wives increase their labour supplies as a reaction to the decreases in family incomes (their

[16] It is possible that joblessness of the spouse incurs an additional negative signal of the state of the labour market. This possibility has not, however, been explicitly tested, although the labour market status of the husband has sometimes been used to indicate a discouraged worker effect through local labour market conditions (Doris, 1998: 22-24).

unearned income) following the unemployment of their husband.[17] This effect works contrary to the discouraged worker effect, and the competition between these two effects has been a considerable stimulant of empirical research.

In her seminal paper, Lundberg (1985) built on the work by Mincer (1962) that expects that the AWE is a reaction to the initial shock of the unemployment of the husband, instead of prolonged unemployment. In her transition rate analysis, she reported supporting evidence. However, Maloney (1991), who also controlled for unobserved factors, did not find support for this argument: instead, he reported that wives do not react to the shock of unemployment by entering into the labour market, but do increase their labour supplies if the husband experiences prolonged or recurrent unemployment.

Most studies that have found support for the AWE have concluded that this effect is modest in size (cf. Stephens, 2002: 505; Cahuc and Zylberberg, 2004: 19). Maybe the only study that found a strong AWE is Stephens (2002). He studied the effects of worker displacement instead of unemployment as such, due to the major and long-lasting income falls following displacement. Stephens found that the effects of displacement on the labour supply of the wife were strong and lasted for long period of time. With this exception, the general conclusion from the literature is that the AWE is either weak or non-existing, and the discouraged worker effect and other labour supply depressing effects are stronger than any added labour supply by the wife induced by unemployment of the husband.

A plausible reason for this is that unemployment benefits crowd out any family responses to unemployment (discussed next). Another possibility is that the lower wages of wives would not be a good compensation for the lost earnings of their husbands (Cullen and Gruber, 2000). Non-employed wives may also not bother taking up job search if they expect their husbands to find a new job fast. Doris (1998) considered this possibility, but did not find according evidence (even though she underlined the limits of the variable she used). A final possibility is that the assumption of income pooling between family members is too strict (Doris, 1998: 179).[18]

[17] Since male labour supply is less responsive to the incomes of the spouse, it would be less likely that men become the added worker if their wife loses her job.
[18] Blau and Kahn (2006) concluded that the elasticity of female labour supply to the earnings of their husbands has decreased in the United States. To the extent that this holds elsewhere as well, one could expect that the Added Worker Effect is likely to become even smaller.

3.3.2.5 Unemployment benefits and means testing

Many commentators blame unemployment benefits for unemployment. They can also affect the labour supplies of other family members by reducing the financial need for any additional workers. Cullen and Gruber analysed this possibility (2000). They found that American wives of unemployed men would work 30 percent more hours if he did not receive any unemployment compensation. Kell and Wright (1990), who studied British wives, similarly reported that any unemployment compensation paid to the husband reduced his wife's employment. Further evidence was given by Doris (1998), who concluded that the husband's incomes, whether from work or benefits, determine the wife's labour supply decisions in the expected ways. Thus, unemployment benefits crowd out the labour supply of other family members, thus adding to the accumulation of joblessness in households.[19]

British researchers in particular have often been more interested in the effects of the means testing of benefits rather than unemployment compensation as such. This interest stems from the empirical findings that show a much wider female employment gap according to husband's labour market status in Britain than in other European countries and from theoretical reasoning, which suggests that means testing of benefits may produce disincentives for labour supply. The argument is that because means tested benefits take into account the incomes of the household as a whole, a decrease in the benefits paid to the husband (or the household) decreases the financial benefits of the employment of the wife (who usually earns less). Means testing of social benefits can have an additional suppressing effect on the AWE.[20]

Empirical evaluations of the effects of means tested benefit systems are rather numerous. Most of the studies have analysed British data. Many studies have measured the effects of means tested benefits through receipt of such benefits (e.g., Kell and Wright, 1990; Dex et al., 1995; Giannelli and Micklewright, 1995; McGinnity, 2002), while other authors have used

[19] In this context, it is worth mentioning that even though the absence of unemployment compensation may increase the labour supply of additional workers, this additional labour supply may fall far from compensating for the income losses induced by unemployment of the main breadwinner (Cullen and Gruber, 2000; also, Stephens, 2002).

[20] Although the AWE and the means testing effect appear as similar mechanisms, the AWE depends on exogenous incomes of the spouse, while in the means testing mechanism, the effects of spousal incomes on labour supply are endogenous (Doris, 1998: 31). The effects of (not means tested) unemployment compensation on spousal labour supply, on the other hand, are in a straightforward relation to the AWE, because in this case the unemployment benefit received by the spouse is exogenous to labour supply.

defined more precise budget constraints (Garcia, 1991; Doris, 1998; Bingley and Walker, 2001).

The results are not completely robust, although most authors conclude that means testing does have negative consequences (e.g., Kell and Wright, 1990; Garcia, 1991; Dex et al., 1995; Bingley and Walker, 2001; McGinnity, 2002). Many studies have used these results to explain the cross-national variation in unemployment polarization, and especially, its high levels in the United Kingdom and Ireland (Kell and Wright, 1990; Dex et al., 1995; Iacovou, 2001; McGinnity, 2002). For instance, McGinnity (2002) reported that the employment entry rate of British women whose husbands received means tested benefits was much lower than otherwise and the high proportion of unemployed men on these benefits explained the lower employment rates of these women compared to Germany, where most unemployed men receive non-means tested benefits.

Some studies have been more sceptical. For Germany, Giannelli and Micklewright (1995) found a negative association between means tested benefits received by the husband and the labour market participation of their wives, but no association between means tested benefits and labour market transitions. According to Doris (1998: 34), this reflects the endogeneity of means tested benefits. Doris herself concluded (for 1980s Britain) that the overall effect of the disincentives imposed by means tested benefits does not have an effect on the labour supply of the wives of the unemployed. An effect could be found for "potentially working" non-employed women, but since the group was small, the aggregate effect was driven by other mechanisms (Doris, 1998: 177-178).

Finally, a study worth mentioning is Dorsett's (2005) evaluation of the effects of a British policy change, which required both spouses of a couple (instead of just one) to search for work. Using difference-in-difference estimation combined with matching techniques, he found that the new requirements increased exit from benefits, but the effects on exits from worklessness were less clear. This may have to do with the short time-span between the implementation of the policy and the evaluation. Preferred outcomes started to evolve at the end of the time-frame.

3.3.2.6 Complementary or supplementary leisure of spouses

Another hypothesis drawn from economic theories of household labour supply concerns the cross-substitution effects of the labour supply of spouses (Killingsworth, 1983). If the leisure times of the spouses are supplementary, an increase in the leisure time of one spouse increases the labour supply of the other spouse. If the leisure times are complementary, an increase in the leisure time of one spouse increases the time spent on leisure by the other spouse, and thus decreases the labour supply. In the former case, we expect a Beckerian division of household labour. In the latter case, spouses gain utility from shared leisure.

Some studies have examined this question. In a study of German elderly couples, Blau and Riphahn (1999) reported results that support the complementary leisure hypothesis. Other results (e.g., Davies et al., 1994; Cullen and Gruber, 2000; cf. Doris, 1998: 26-27) have suggested that the presence of an unexplained effect of the unemployment of the husband on the unemployment of his wife may partly reflect complementarity, while some researchers (Maloney, 1991) have been more sceptical. Doris (1998: 26, 173-174) also found some support for the complementary leisure hypothesis. However, she noted that some of her results suggested that instead of wishing to spend time with their unemployed husband, wives may be not be willing to take over the breadwinner role (see macho-effect below). In general, one can expect that the complementarity of leisure times might affect coupled joblessness, but mainly for specific sub-groups, such as elderly couples looking forward to retirement (Blau, 1998; Blau and Riphahn, 1999). On the contrary, the leisure times of couples with children are likely to be supplementary, as supported by the research on the labour supply responses to parenthood (cf. Lundberg, 1988; Lundberg and Rose, 1999).

3.3.2.7 Psychological effects of own and partner's unemployment

An argument closely related to the above discussion concerns the psychological impacts of one's own unemployment and the unemployment of a partner. Unemployment can have adverse effects on psychological well-being (e.g., Clark, 2001). Clark (2003) found the interesting result that this effect may depend on unemployment in one's social environment, and importantly for our discussion, the unemployment of the spouse. More specifically, he found that while own unemployment had psychological costs, unemployment and inactivity of

the partner reduced these costs. Moreover, the effect was much bigger for men than for women.[21]

Clark also analysed the labour supply effects of the psychological costs of unemployment. He found that the psychological costs of unemployment had a positive effect on exiting unemployment, and the effect held after controlling for unobserved heterogeneity. An implication is that the unemployed, whose partner does not work, have a lower likelihood of exiting unemployment. This may explain the accumulation of joblessness into couples.

3.3.2.8 Social capital and spouse resources

A recent development in the literature on coupled labour market statuses has been an interest in the social capital (Lin et al., 1981; De Graaf and Flap, 1988) provided by the spouse (Bernasco et al., 1998; Bernardi, 1999; Blossfeld and Drobnič, 2001). This is an extension of the research on the effects of social resources provided by friends and acquaintances to those provided by the partner.

According to one definition, social capital consists of the size of the network a person can effectively mobilize, and of the amount and quality of resources that the people in this network possess (Bourdieu, 1986: 204). Other definitions (Coleman, 1990: 302-321) have emphasised trust as a necessary pre-requisite for social capital. Trust within a social relationship is likely to increase the willingness of the actors to share their resources among people with whom they are related. Marriage and partnership is a context for such trust.

Since relying on social networks is a cheap way of acquiring information, the use of such links is a popular and effective way of seeking jobs and workers (Lin, 1999). Empirical studies on the effects of social resources have shown how the size of one's network and especially the quality of the resources possessed by the people in that network are positively associated with individual labour market success (e.g., Lin et al, 1981; De Graaf and Flap, 1988; Granovetter, 1995). Employment of the spouse can be an important link to the labour market, providing both workers and employers with valuable information (Bernardi, 1999:

[21] I discuss this difference more in Chapter 6.

288).[22] Joblessness of the spouse is a break in this link, and thus enforces the accumulation of joblessness into couples. Another way in which spouse resources can facilitate success in employment is by a direct promotion of human (or cultural) capital (Benham, 1974). This can be done by encouragement, by helping with the acquisition of skills, by discussing work related matters at home, and by providing information on how to behave in interviews (Bernasco et al., 1998; Bernardi, 1999; Róbert and Bukodi, 2002). The resource most discussed in this respect is education.

Some studies have found that education of the spouse has a positive effect on employment and occupational success (e.g., Bernasco et al., 1998; Bernardi, 1999; De Graaf and Ultee, 2000; Blossfeld and Drobnič, 2001). Some researchers have interpreted this as reflecting spousal resources. De Graaf and Ultee (2000) also suggested that a part of the effects of the employment of the spouse may work through social capital effects. Even though testing for these effects is difficult with the usual data at hand, it can be speculated that social capital mechanisms contribute to explaining the results pointing to employment difficulties of the wives of unemployed men, who participate in the labour market (e.g., Maloney, 1991).

3.3.2.9 The macho-effect

The macho-effect hypothesis refers to the finding by McKee and Bell (1985) and others, according to which the wives of unemployed men might be reluctant to assume the role of the breadwinner. More precisely, wives might not seek employment because they do not want to harm the self-esteem of the husband, do not consider female breadwinning appropriate, do not trust in the home making skills of their husband, or their husbands do not want give the breadwinner role to their wife (McKee and Bell, 1985; Morris, 1985; Barrére-Maurisson et al, 1985). The underlying explanation stems from deeply rooted cultural views on the proper roles wives and husbands. These values and expectations affect the labour market behaviour of couples and obscure utility maximization, as predicted by economic theories.

Qualitative studies are the main source of support for this hypothesis (ibid.). However, Doris (1998: 173-174), using a Mover-Stayer model, speculated that some of her results that showed a stronger positive effect of the husband's employment on the labour supply of those wives

[22] Although usually willing, the spouse may not be the best provider of information. Spouses are more likely to share similar information and contacts, while people with less intensive contacts may possess new, and more relevant information. This is what Granovetter has called "the strength of weak ties" (1973).

who were not initially employed reflected a macho-effect like pattern. Despite this result, the macho-effect hypothesis has not been explicitly tested with quantitative data. This is the objective of Chapter 6, where I test and discuss the hypothesis in more detail.

3.4 Conclusions

Economists have been active in developing and testing theories of labour supply. The primary focus of these theories is on the responsiveness of labour supply to wages and other incomes. An extension of these theories is the analysis of the labour supply of families. Not all time away from work is leisure. Someone has to keep the household clean, cook meals, and take care of the children. This takes time and there is often a trade-off between time spent working in the market and at home. Families can divide tasks between their members so that some members work more in the market, while others work more at home. The decision-making process surrounding these divisions of labour is often complex, and involves considerations of financial effects, productivity in housework, and future prospects. Sociologists have pointed out that these considerations are not always rational in the neoclassical economics sense of the word, but are affected by cultural conceptions of proper gender roles.

In the third section of the chapter, I reviewed the previous explanations for the accumulation of joblessness into couples. Most earlier research has sought to explain the low labour supply of the wives of unemployed men. One might expect that a non-working wife increases her labour supply when her husband becomes unemployed. This is the so-called Added Worker Effect. Many studies have searched for this effect. Although a number of results support this hypothesis, the estimated effects have generally been modest in size. Mechanisms that depress labour supply often overrun this effect.

Spouses tend to be of similar age and have similar levels of education. They are often constrained by the conditions of the same local labour market. Both of these factors contribute to the similarities in spouses' employment status. The characteristics of social security systems can also depress the Added Worker Effect. Unemployment compensation decreases the need for additional workers in the household. Studies interested in the effects of unemployment benefits support this claim. This effect can be stronger if the payment and level of social benefits depends on the incomes of other household members. Many previous studies have found supporting evidence, even though the support is not conclusive, due to the complexities in estimating such effects. As we saw in Chapter 2, these means tested benefits

play a bigger role in some countries than others. Some researchers have used this variation to explain the cross-national differences in the association between partners' employment status.

Unemployment may "come in couples" (De Graaf and Ultee, 2000) also because spouses enjoy leisure together. While some researchers have claimed to find support for this hypothesis, the empirical evidence does not seem conclusive. Clark (2003) reported evidence that suggested that joblessness of the spouse reduces the psychological costs of unemployment; consequently, people with jobless spouses are less likely to exit joblessness. Spouses can also provide each other information, contacts to employers, and other valuable resources. Joblessness may mean deterioration in the resources that spouses can provide. Some sociologists have discussed this social capital explanation. However, direct evidence is hard to find. Finally, ethnographic research on jobless couples has found that some wives might not want to become the single breadwinner of the family. This explanation has not explicitly tested in previous work with quantitative data. I will look for this "macho-effect" in Chapter 6.

Summing up, there are several explanations to the puzzle of coupled joblessness. Previous research has found maybe the most conclusive support for explanations stressing the common characteristics of couples, the conditions of their local labour markets, and the effects of social benefits. These mechanisms tend to depress any increase in the labour supply of those with jobless spouses.

4 DATA, METHODS, AND PRELIMINARY RESULTS

4.1 Introduction

In the next section of this chapter, I describe the data I use this dissertation, the European Community Household Panel (ECHP). The ECHP has become a major tool for comparative social scientific research in Europe. The main features of the data are their comparability across fifteen European countries and their longitudinal nature. The ECHP contains follow-up information on respondents and their households for up to eight years. For the purposes of this dissertation, an important aspect is that the data contain information on all members of a household. Some researchers have also used it to study dual joblessness in Europe (De Graaf and Ultee, 2000; Iacovou, 2001). Neither of these studies exploited the panel structure of the data.

Panel data contain more information than cross-sectional data. More specifically, they give researchers better opportunities to control for unobserved factors. Many researchers also use panel data to study social dynamics. In the empirical chapters, I use ECHP panel data both to control for unobserved factors and to study the labour market dynamics of couples. Therefore, in the third section of the chapter I briefly introduce the common methods for these purposes. I discuss the specific methods for each research question in the respective chapters.

Before we move on to the empirical chapters, I provide some descriptive information on dual joblessness in the fourth section of this chapter. I present the trends in dual joblessness in the latter part of the 1990s, examine the associations between dual joblessness, unemployment, and female employment rates, describe dual joblessness in Europe according to background variables, display data on the longitudinal aspects of dual joblessness, and present information on the job search activity of dually jobless couples. These results provide a background for the three empirical chapters that follow. They also present aspects of dual joblessness that are less covered in the empirical chapters.

4.2 The data: European Community Household Panel Survey (ECHP)

4.2.1 Introduction

The micro-data that I use throughout the empirical part of the dissertation come from the European Community Household Panel, the ECHP (see Table 4.1.). The ECHP is a cross-nationally comparative household panel collected in fifteen countries of the European Union.

The countries covered are Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Eurostat coordinated the data production and collection procedures (Eurostat, 2003), but national partners collected the data in each country. A central feature of the data is their cross-national comparability, resulting from the input harmonization of the data (except for Sweden and the full British, German, and Luxembourgish panel). Input harmonization means that – unlike the case in most comparative data sets – the questionnaire follows the same, standardized form in each country. The original data set (first wave) was collected by taking a sample of households in each country. The sampling procedures showed some variation between the countries (Peracchi, 2002; Eurostat, 2003). Data collectors interviewed all household members above the age of sixteen, and collected basic demographic data on the other household members. The follow-up was conducted by following "sample persons" – the individuals in the original sample, and the children born to women in the original sample – and their households. When a sample person left the original household to a new one, the new household and its members were included in the study.

The first wave of the data was collected in 1994. Austria joined the project in 1995, Finland in 1996, and Sweden in 1997. The ECHP was originally planned to cover ten annual waves. However, Eurostat decided to stop the collection of the survey after the eighth wave in 2001. Due to overlapping data projects and considerable panel attrition, the German, Luxembourgish and British partners decided to stop collecting the input-harmonized ECHP after the third wave. Instead, the eight-wave panels from these countries are based on output-harmonized data from the national panels running in these countries (the German Socio-Economic Panel (SOEP), Luxembourgish Panel Survey (PSELL) and the British Household Panel Survey (BHPS), respectively). The Swedish data are also based on their national survey, the Swedish Level of Living Survey (ULF). A further limitation of the Swedish data is that they are cross-sectional only.

Table 4.1.. Basic sampling information on the European Community Household Panel (ECHP).

	First wave (total number of waves)	Number of households in first wave (nat. data in parentheses)	Number of interviews in first wave (nat. data in parentheses)	Number of individuals in first wave (nat. data in parentheses)	Household response rate in first wave (%) (nat. data in parentheses)	Attrition in first five waves (%)	Notes
Austria	1995 (7)	3,380	7,437	9,579	68.0	-16.7	
Belgium	1994 (8)	3,490	6,710	9,149	84.4	-19.4	
Denmark	1994 (8)	3,482	5,903	7,693	64.2	-25.9	
France	1994 (8)	7,344	14,333	18,916	79.5	-16.5	
Finland	1996 (6)	4,139	8,173	11,214	73.3	n.a.	
Germany	1994 (8)	4,968 (6,207)	9,490 (12,233)	12,435 (16,284)	47.7 (62.2)	-7.7	Only three first waves of the original ECHP collected, later replaced by data from a national panel survey (SOEP).
Greece	1994 (8)	5,523	12,492	16,321	90.1	-23.6	
Ireland	1994 (8)	4,048	9,904	14,585	55.8	-33.6	
Italy	1994 (8)	7,115	17,729	21,934	90.7	-10.6	
Luxembourg	1994 (7)	1,011 (2,978)	2,046 (6,786)	2,807 (8,192)	40.7 (65.0)	-14.3	Only three first waves of the original ECHP collected, later replaced by data from a national panel survey (PSELL, 1995-2001).
Netherlands	1994 (8)	5,187	9,407	13,029	87.5	-1.7	No monthly employment data.
Portugal	1994 (8)	4,881	11,621	14,706	88.9	-4.7	
Spain	1994 (8)	7,206	17,893	23,025	67.0	-16.9	
Sweden	1997 (5)	5,891	9,597	13,361	75.0	n.a.	Cross-sectional data only, output harmonized from national source (ULF).
UK	1994 (8)	5,779 (5,126)	10,517 (9,028)	14,342 (12,844)	71.6 (73.6)	-2.3	Only three first waves of the original ECHP collected, later replaced by data from a national panel survey (BHPS).

Sources: Eurostat (2003); Peracchi (2002); Lehmann and Wirtz (2003); Eurostat (2003) European Community Household Panel, own calculations.

The ECHP consist of the following data files. The *Household file* includes information on the demographics, incomes, financial situation, accommodation, durables, and children of the household. The *Personal file* consists of the data gathered from the individual interviews (individuals 16 years and more), and includes variables on the individuals' demographic features, employment, unemployment, search for work, previous job, income, education, health, social relations, migration trajectories, and life satisfaction. The *Register file* contains basic information on all household members, regardless of their interview status. The *Relationship file* reports the social relationships between the members of the household. The *Longitudinal link file* helps in the construction of the follow-up data set, and includes the individual and household identification numbers, and some basic information on the respondent. Finally, the *Country file* has some country level variables on the demographic and economic patterns of the countries in the study.

4.2.2 Non-response and attrition

Non-response rates varied strongly across the countries (Nicoletti and Peracchi, 2005). The lowest response rate was in Luxembourg (40.7 percent in the original sample) and the Southern European countries had the highest response rates (90.7 percent in Italy). An additional problem concerning panel studies such as the ECHP is panel attrition – the tendency of sampled individuals and households to drop out of the study between the waves. The rates of panel attrition in the ECHP varied considerably across countries and between waves. For example, between the first wave and the sixth wave, the overall decrease in sample size varied from 1.7 percent in The Netherlands to 33.6 percent in Ireland (Peracchi, 2002). Attrition in the British sample of the ECHP was even higher (21 percent between the first two waves, and 17 percent between the second and the third wave), in part contributing to the British decision to replace the original ECHP with data from the BHPS (Germany and Luxembourg had very high rates of non-response in the original sample as well).

The ECHP files include weights to correct for possible non-response and attrition bias. The weights were constructed using basic demographic variables (Eurostat, 2003a). There have been some questions regarding the effectiveness of the weighting schemes (Peracchi, 2002). In Tables 4.2 and 4.3, I compare ECHP estimates of employment and unemployment rates using two measures (the ILO main activity status variable (*pe003*) and self-defined main activity status (*pe001a*) with and without the ECHP cross-sectional weights (*pg002*)) with data from the *Employment Outlook* published by the OECD (2002).

Table 4.2. A comparison of unemployment rates using the ECHP and OECD data

	1994					2001				
	OECD	ECHP ILO uw	ECHP ILO w	ECHP pe001a uw	ECHP pe001a w	OECD	ECHP ILO uw	ECHP ILO w	ECHP pe001a uw	ECHP pe001a w
Denmark	7.7	9.0	9.5	12.4	12.9	4.4	4.0	3.9	4.9	4.9
Belgium	9.8	7.9	7.9	11.5	12.6	6.7	3.1	3.0	8.9	9.2
France	11.9	13.0	13.1	14.0	14.0	8.5	7.7	7.8	10.2	10.4
Ireland	14.3	12.4	17.0	14.2	19.3	3.9	4.7	6.6	6.6	8.9
Italy	11.0	17.3	16.8	16.2	16.1	9.5	13.4	12.0	13.7	12.1
Greece	8.9	14.8	15.0	15.3	15.5	10.4	7.0	7.1	8.5	8.5
Spain	19.8	23.1	23.4	19.9	20.4	10.6	11.1	11.1	12.0	12.4
Portugal	6.9	7.2	7.3	9.6	9.7	4.1	2.9	3.8	5.4	6.5
Austria	3.9	4.0	3.6	5.1	4.8	3.6	3.6	3.4	4.9	4.7
Finland	14.6	11.9	15.0	14.0	17.1	9.1	6.4	6.4	7.8	8.5
Germany SOEP	8.2	8.6	8.6	11.0	10.8	7.8	5.2	4.9	9.5	9.6
Luxembourg PSELL	2.9	..	..	0.6	0.5	2.1	..	..	2.4	2.6
UK BHPS	9.2	..	..	8.7	8.6	5.0	..	..	4.1	3.9

Table 4.3. A comparison of employment rates using the ECHP and OECD data

	1994					2001				
	OECD	ECHP ILO uw	ECHP ILO w	ECHP pe001a uw	ECHP pe001a w	OECD	ECHP ILO uw	ECHP ILO w	ECHP pe001a uw	ECHP pe001a w
Denmark	72.9	75.0	73.6	71.5	69.5	75.9	82.0	81.2	77.2	76.6
Belgium	56.0	65.5	60.8	62.6	57.8	59.7	69.7	64.0	67.6	63.7
France	59.5	57.9	57.9	58.5	58.3	62.0	64.3	63.6	65.1	64.2
Ireland	53.7	58.0	52.5	54.3	49.0	65.0	66.2	65.5	63.4	63.1
Italy	51.7	53.4	53.4	52.0	52.0	54.9	55.7	54.2	55.1	55.7
Greece	55.9	56.1	55.7	55.0	54.6	55.6	59.0	58.3	58.4	57.8
Spain	47.0	49.1	50.0	46.5	47.2	58.8	58.9	58.5	58.0	57.4
Portugal	67.0	63.8	67.3	62.0	65.3	68.6	70.1	71.6	69.1	70.3
Austria	69.2	65.5	69.5	63.9	68.0	67.8	67.6	71.4	65.7	69.4
Finland	62.2	67.2	63.4	65.2	61.4	67.7	71.5	70.9	68.8	68.8
Germany SOEP	65.4	72.0	69.0	65.7	64.0	65.8	73.4	70.6	66.9	64.3
Luxembourg PSELL	58.9	57.8	62.6	63.0	68.7	63.0	70.8	74.2	69.6	72.9
UK BHPS	69.9	71.5	71.2	65.5	65.2	72.8	72.9	76.4	74.0	73.4

Sources for both tables: Eurostat (2003) European Community Household Panel, waves 1 and 8, annual data; OECD (2002).

Notes and abbreviations: uw = unweighted data; w = weighted data; ILO measure comes from the ECHP variable pe003; pe001a reports self-defined main activity status.

The results show generally an acceptable match, but in some cases also big differences between the measures. These seem to be mainly country specific: the Belgian and Luxembourgish ECHP data fare the worst in reproducing the employment rates reported by the OECD, and the Italian data overestimate unemployment. Interestingly, the differences between the estimates often become smaller by the maturation of the panel. Another

interesting finding is that the weighted data do not appear superior to unweighted data. Often, the employment and unemployment rate estimates without weights produce closer matches with OECD data.

Table 4.4. Average number of months observed for those experiencing dual joblessness, those not, and all couples.

	Experienced dual joblessness	Did not experience dual joblessness	All
Denmark	47.6	51.7	51.3
Belgium	56.5	56.9	56.8
France	54.5	58.3	57.9
Ireland	57.1	49.1	50.7
Italy	59.1	57.3	57.6
Greece	61.7	57.7	58.3
Spain	58.6	52.5	54.0
Portugal	61.8	59.0	59.3
Austria	50.7	50.4	50.4
Finland	40.7	39.5	39.6
Germany SOEP	55.1	57.0	56.8
Luxembourg PSELL	51.2	47.6	48.1
UK BHPS	58.4	58.1	58.1

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband 25-55 years.
Note: The maximum number of months is 84.

There has been some research on the randomness of attrition in the ECHP (Watson, 2003; Behr et al., 2005; Nicoletti and Peracchi, 2005; Vandecasteele and Debels, 2007). Although attrition in the ECHP is not random, studies on the effects of attrition on the quality of the data have for the most part concluded that selective attrition does not pose a major problem in terms of biasing the results of most of the questions the ECHP is used to answer (Watson, 2003; Behr et al., 2005). The attrition patterns also show some variation across countries and across the waves. Interesting for this study, Behr and colleagues (2005: 502) reported that while the unemployed show higher rates of attrition, the economically inactive are less likely to drop out. Regarding the effects of education, the highly educated have higher dropout rates in the Southern countries, while the opposite holds for the Northern countries. However, interviewing technicalities (such as interviewer change) and household move had the biggest effects on attrition. The former is clearly exogenous to the processes under study (Nicoletti and Peracchi, 2005; Vandecasteele and Debels, 2007). Vandecasteele and Debels (2007) found that attrition affected estimates of the distribution of education and social class, and they used this as an argument for their longitudinal weighting scheme. However, as can be

seen from Tables 4.2 and 4.3, the accuracy of employment indicators do not seem to decline by time.[23]

Table 4.4 shows the average number of months observed for couples who experienced dual joblessness during the follow-up, and those who did not. We can observe some differences (the biggest ones being in Ireland), mainly so that couples that experienced dual joblessness were observed for more months than couples that did not experience dual joblessness. These patterns may result in a (slight) overestimation of the rates of dual joblessness in these countries.

The original weighting scheme of the ECHP is rather simple and straightforward (Eurostat, 2003a). Since the benefits of using these or other weights are not clear, I decided not to use weights in my analyses.[24] Furthermore, the variables of the ECHP weights enter into normal regression models, and weighting in this case may not reduce the bias of the estimates, but does decrease their accuracy (Winship and Radbill, 1994). In some models, I also tested for attrition bias of the estimates by specifying Heckman-type two-stage selection models, in which I used interview technicalities at wave *t* as instruments for remaining in the panel at *t* + 1 (not shown). The results did not support any additional benefits from this procedure, as the estimates remained more or less the same.

4.2.3 The matched partner-files

For the empirical analyses, I constructed data files in which couples are the unit of analysis. I made some restrictions to the data. First, I excluded the Netherlands and Sweden from the files. The Dutch data did not have information on the monthly main activity statuses of the partners. This information (see below for description of the variable) is central for the analyses in Chapters 5 and 7, and used to construct an estimate of monthly benefit receipt and levels in Chapter 6. I also excluded the Swedish data, which are not panel data. Therefore, the countries included in the analyses are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, and the United Kingdom. The final number of countries analysed varies between the chapters and the specific analyses at hand. I explain the reasons for further exclusions in the appropriate places. The age restrictions differ

[23] Here, an additional source of attrition may come from union dissolution and its correlation with background factors, such as education (Härkönen and Dronkers, 2006). Since the number of dissolutions observed in the ECHP is relatively modest (Uunk, 2004: 273), this is unlikely to pose a problem.
[24] In some cases, however, I use country-level population weights to construct EU-level estimates.

across the empirical chapters.[25] In the basic age restriction, the sample includes couples, in which the husband is aged 25 to 55. In this group, one can expect couples to provide themselves through the labour market. As a rule, I excluded students and cases with missing values from the analyses. I did not, however, make any restrictions on the basis of marital status. Therefore, the sample includes both married and cohabiting couples. In some analyses, I include marital status as an independent variable. For the sake of simplicity, I continue to call all male partners "husbands" and all female partners "wives', regardless of their marital status.

The ECHP contains data on the economic statuses of all household members. In addition, it includes information on the relationships between the members of the household. I used these data to construct the matched partner files, which I use in the empirical analyses. There are some differences in the variables included in the files and the sample restrictions across the chapters. However, each file includes information on the labour market status of the partners, their demographic characteristics, their education, health, and so on. The files also include household level variables, such as the number and age of children. I discuss the specific variables chosen for each analysis further in the empirical chapters themselves.

I constructed the matched partner-files in the following way. In the first step, I matched each wife (married or cohabiting) to her husband at each year. After this, I linked individual-level information on both the husband and the wife for each year. I did the same for the household-level variables and the variables on the number and ages of the children in the household. Last, I linked the monthly labour market status measure (retrieved from wave t+1, since the variable refers to each month of the preceding year) to the partners (when applicable), and constructed variables on the joint labour market status of the couple. Because the monthly measure refers to the previous year, one wave is lost. Therefore, the maximum number of months recorded is 84 months (years 1994-2000, waves 2 to 8).

[25] Due to the strong correlation between the spouses' ages, I use the age of only one spouse in each analysis.

Table 4.5. Some descriptive statistics of a matched partner file, husband aged 25 to 55 years. 1994-2000.

	AT	BE	DK	FIN	FR	GER	GR	IRL	IT	LUX	PRT	SP	UK
Couples	1,316	1,471	987	1,236	3,157	2,522	2,380	1,583	3,819	1,311	2,357	3,221	1,615
Couple-months	66,172	83,890	48,776	46,665	178,386	130,088	138,176	80,776	219,698	62,884	139,663	174,926	94,081
Dual employment	56.6	64.6	80.8	71.7	66.0	63.6	44.3	41.6	42.1	37.0	60.5	32.2	69.8
Male breadwinning	37.1	27.4	14.0	20.7	28.0	28.0	49.6	45.2	46.6	56.3	32.0	55.1	20.5
Female breadwinning	3.3	2.5	3.1	4.8	3.1	4.5	2.3	2.6	3.9	2.3	3.7	3.8	4.9
Dual joblessness	3.0	5.5	2.2	2.8	2.9	3.9	3.8	10.6	7.4	4.5	3.8	8.9	4.9
Mean age, husband	41.8	41.0	41.5	42.0	41.2	41.1	42.8	42.3	42.8	41.1	42.1	41.7	41.2
Low education, husband [1]	11.8	27.0	16.9	22.7	37.7	17.6	50.0	46.4	54.4	38.5	84.3	61.2	38.6
Middle education, husband	80.7	34.5	46.9	45.5	39.5	56.8	29.4	35.6	36.3	39.5	9.8	17.4	13.0
High education, husband	7.5	38.5	36.2	31.8	22.9	25.7	20.6	18.0	9.3	22.0	5.9	21.4	48.4
Low education, wife	26.7	27.4	18.7	19.3	41.2	23.8	52.3	42.0	54.9	55.4	83.2	65.8	45.3
Middle education, wife	65.7	32.5	43.7	38.0	34.1	60.1	30.0	43.3	36.9	32.3	9.5	16.7	12.7
High education, wife	7.7	40.1	37.6	42.7	24.7	16.1	17.7	14.6	8.1	12.3	7.4	17.5	42.0
Bad health, husband	4.0	2.9	1.7	3.1	3.9	11.3	2.3	2.0	4.6	..	8.6	4.1	7.4
Bad health, wife	2.5	2.5	3.1	3.0	5.0	13.2	2.0	1.7	4.3	..	11.2	5.3	8.3
Number of children	1.4	1.4	1.3	1.4	1.4	1.2	1.4	2.1	1.2	1.2	1.3	1.3	1.2
With kids 0-6 yrs	28.2	29.9	31.7	30.3	30.3	22.8	27.9	36.7	26.6	29.6	25.0	28.0	29.4

Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples, husband 25-55 years, no students.

[1] Education is coded in the ECHP as: Low (less than second stage of secondary education, ISCED 0-2); Middle (Second stage of secondary level education, ISCED 3); High (Tertiary education, ISCED 5-7).

See Table 4.5 for a description of some basic variables of a matched partner file.[26]

The dependent variable differs slightly across the empirical chapters. In every case, the dependent variable is a combined measure indicating the joint labour market status of the couple. In Chapter 7, the dependent variable is binary (dually jobless – not dually jobless). In Chapters 5 and 6, the basic dependent variable contains the four combinations of the partner's employment statuses (employed – not employed). Throughout the empirical chapters, I do not separate unemployment as a separate category. The reasons behind this are both theoretical and practical. For the inequality outcomes of dual joblessness, the biggest difference is whether the couple is dually jobless or not, instead of whether either spouse is looking for a job. The practical reason is that incorporating unemployment into the dependent variables resulted in implausibly small cell sizes. I present some descriptive data on job search among jobless couples in the next section of this chapter. For the same practical reasons, I did not differentiate between full-time and part-time workers, although some authors have argued in favour of such a distinction when analysing dual joblessness (Bingley and Walker, 2001).

Table 4.6. Average dual joblessness rates (%) according to four different measures, 1994-2000

	pe003 (ILO)	*pe001*	*pe001a*	*pc001-pc012 (monthly)*
Denmark	2.1	2.2	2.2	2.2
Belgium	4.8	5.1	5.1	5.5
France	4.1	3.3	3.4	2.9
Ireland	9.1	10.3	10.3	10.6
Italy	6.1	6.6	6.6	7.4
Greece	3.9	4.2	4.2	3.8
Spain	7.5	8.2	8.2	8.9
Portugal	3.3	3.7	3.7	3.8
Austria	2.7	2.9	2.9	3.0
Finland	2.6	2.8	2.8	2.8
Germany SOEP	3.4	4.4	4.4	3.9
Luxembourg PSELL	3.6	3.7	3.8	4.5
UK BHPS	4.7	4.4	4.6	4.9

Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples, husband 25-55 years, no students.

The ECHP contains variables on the respondent's labour market status at the time of the interview, and monthly data on main activity status (see Eurostat, 2003b). The variables on

[26] The share of partners reporting bad or very bad health is high in Germany and Portugal, and the United Kingdom. The German and British figures were lower in the original ECHP than their national replacements (SOEP and BHPS), and the share of those reporting fair health was higher. The difference may have to do with the specific wording of the questions. However, the associations between self-reported health and other health variables (such as whether one has chronic health problems, and whether one is hampered by these in daily activities) were very similar in both surveys.

the respondent's status at the time of the interview are the respondent's ILO main activity status (*pe003*), and two self-defined main activity status variables (*pe001* and *pe001a*). The monthly data refer retrospectively to the self-defined main activity status at each month of the previous year. Because of its retrospective nature, it is subject to recall bias. However, the monthly measure of dual joblessness shows a high degree of overlap (over 95 percent) with dual joblessness variables measured at the time of the interview, although the overlap is lower for dual joblessness than for being outside dual joblessness.

Table 4.6 shows the estimated dual joblessness rates from the four different variables. For the most part, the variables produce very similar results. With the exceptions of France and Greece, and partly Finland and Denmark, the monthly variable produces slightly higher estimates than the variables recording the status at the time of the interview. The differences are bigger in Spain and Italy. The monthly measure differs the most from the ILO labour market status-based measure (especially in Ireland, Spain, Italy, and Greece), while the differences are smaller between the monthly measure and the self-defined main activity statuses. The questioning and the coding of the latter are more similar to each other than to the ILO status variable. More specifically, the differences between the status-at-interview measures seemed to occur for the following reasons. First, those working less than 15 hours were coded as non-employed in *pe001* and *pe001a* in the first two waves, but as working in the ILO variable. For example, some self-declared housewives and unemployed in fact worked, often part-time (and were coded as employed according to the ILO measure). Second, there were more missing values for the ILO variable than the others, especially for wives. I excluded these cases. The differences between the status-at-interview measure and the retrospective monthly measure may also occur because of seasonal variation in dual joblessness, recall bias, or different coding.

Table 4.7. Number of monthly transitions between the joint employment statuses.

		Dual emp.	Male bread.	Female bread.	Dual jobless	Right-censored
Denmark	Dual emp.	38,054	393	137	*	770
	Male bread.	426	8,029	*	58	178
	Female bread.	162	*	1,583	(29)	46
	Dual jobless	*	78	36	1,646	42
Belgium	Dual emp.	52,573	517	139	(14)	876
	Male bread.	501	22,300	*	135	382
	Female bread.	132	*	2,003	(28)	45
	Dual jobless	(17)	105	(23)	4,440	102
France	Dual emp.	113,812	1,013	399	30	2,027
	Male bread.	1,101	49,258	*	286	899
	Female bread.	412	(10)	5,331	81	144
	Dual jobless	29	285	92	5,131	152
Ireland	Dual emp.	32,295	468	111	(12)	673
	Male bread.	540	35,473	*	219	691
	Female bread.	124	*	2,112	55	40
	Dual jobless	(12)	253	63	8,229	142
Italy	Dual emp.	89,328	1,096	332	62	1,589
	Male bread.	1,056	99,235	(25)	678	1,754
	Female bread.	287	(22)	8,008	189	182
	Dual jobless	48	592	190	15,177	393
Greece	Dual emp.	58,864	944	232	92	1,016
	Male bread.	921	66,192	(15)	375	1,236
	Female bread.	201	(19)	2,834	56	86
	Dual jobless	80	337	61	4,666	153
Spain	Dual emp.	53,298	1,320	366	147	1,080
	Male bread.	1,367	92,870	45	1,128	1,648
	Female bread.	393	36	5,870	235	140
	Dual jobless	153	1,141	248	13,737	314
Portugal	Dual emp.	82,099	697	223	(23)	1,442
	Male bread.	754	43,384	*	187	733
	Female bread.	185	*	4,881	70	119
	Dual jobless	(21)	162	72	4,972	121
Austria	Dual emp.	36,061	430	166	*	743
	Male bread.	403	23,860	*	175	469
	Female bread.	156	*	2,109	(24)	67
	Dual jobless	*	176	(18)	1,812	61
Finland	Dual emp.	31,739	642	191	(13)	853
	Male bread.	691	10,260	*	133	289
	Female bread.	229	(12)	2,366	54	69
	Dual jobless	(12)	158	61	1,559	50
Germany	Dual emp.	79,673	614	442	(10)	1,356
	Male bread.	737	35,028	(11)	252	614
	Female bread.	406	*	5,686	62	139
	Dual jobless	(11)	211	56	4,869	131
Lux.	Dual emp.	22,281	372	69	*	528
	Male bread.	406	34,295	*	120	681
	Female bread.	46	*	1,307	(17)	45
	Dual jobless	*	96	(17)	2,632	72
UK	Dual emp.	63,585	655	253	20	1,060
	Male bread.	700	19,128	(11)	120	333
	Female bread.	240	*	4,529	63	93
	Dual jobless	(14)	132	68	4,476	86

Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples. Husband aged 25-55, no students. * $n < 10$; ( ) $10 < 30$

I use the monthly variable in Chapters 5 and 7. In Chapter 5, I analyse monthly transitions. Table 4.7 shows the number of monthly transitions between each of the four states, following Eurostat regulations.[27] The number of some of these transitions is small. Generally the lowest number of transitions can be found in cases in which both partners are mobile, and especially in transitions from male breadwinning to female breadwinning and vice versa.[28] In Chapter 7, the monthly variable is used to link dual joblessness and childbearing more closely and to increase sample size. In Chapter 6, I use the joint status variable, which is based on the ILO definition. While a comparison of the rates in Table 4.6 might suggest that it would be more consistent to use the self-defined variables instead of the ILO one, I chose the latter, because of its familiarity and "objectivity". The possible implications of this decision for the results are discussed in the concluding section of Chapter 6.

4.3 A brief introduction to the methods used

In this section, I briefly introduce and summarize the econometric approaches used to analyse the data. The specific methods vary between the empirical chapters, and I discuss them in more detail in the appropriate chapters.

Panel data are useful in two important ways: to control for unobserved heterogeneity and to analyse change over time (Wooldridge, 2002; Halaby, 2004; Petersen, 2004: 331). Panel data contain more information than cross-sectional data (Hsiao, 2003). This feature enables one to estimate more sophisticated methods and in particular, to control for unobserved heterogeneity. Unobserved heterogeneity refers to unobserved factors, which do not change across time, but which have an effect on both the dependent variable and the independent variable of interest (Halaby, 2004). Equation (1) gives an example of a regression model with unobserved factors:

$$y_{it} = a + \beta_1 x_{it} + \beta_2 z_i + u_i + v_{it} + \varepsilon_{it} \qquad (4.1).$$

Here, y_{it} is the dependent variable, a is the constant term, x_{it} is an observed time-dependent independent variable, z_i is an observed time-constant variable, β:s are the coefficient to be estimated, u_i a time-constant (fixed) unobserved term, v_{it} a time-dependent unobserved term,

[27] These regulations prevent reporting any cell size number below 10, when longitudinal data are used. There is one zero cell in this monthly transition file, in transitions from male to female breadwinning. This transition is analysed only in Chapter 6, where I use annual transition data, which does not have zero cells.
[28] There are less transitions with low cell sizes in the annual data used in Chapter 6.

and ε_{it} a true error term with the usual properties. The panel (or cross-sectional time-series) nature of the model comes from the fact that the values of some of the variables can vary by time. Otherwise, the model is static, in the sense that we analyse the factors determining the values of the dependent variable (e.g., employment, wages) at different time-points instead of changes in these values.

If u_i is correlated with x_{it} and z_i, normal regression models yield biased estimates of the β:s. A well-known solution to this problem is fixed-effects (FE) modelling. FE models use time-demeaning (that is, they use the deviation of each variable at each point in time from the unit-specific mean of the variable over time) as a way of controlling for unobserved heterogeneity:

$$(y_{it} - \bar{y}_i) = \beta(x_{it} - \bar{x}_i) + (v_{it} - \bar{v}_i) + (\varepsilon_{it} - \bar{\varepsilon}_i) \qquad (4.2).$$

Both the unobserved and the observed time-constant variables disappear in this transformation. The former is just want we wanted, but the latter can be a problem if we are interested in estimating the effects of time-constant variables as well. There are some solutions to estimate the effects of time-constant variables while keeping the advantages of FE models (Wooldridge, 2002; Halaby, 2004). If we are interested in the effects of x on y, the FE transformation gives us estimates that are free of heterogeneity bias. However, FE models continue to yield biased estimates of β if v is correlated with x. Again, different solutions for this problem have been suggested, although they demand more from the data and/or rely more heavily on identifying assumptions than the FE models (ibid.). I use FE estimation in Chapter 7 to estimate the effects of childbearing and the age of the youngest child on the risk of dual joblessness. The chapter includes a further discussion of the particular specification used.

Panel data also allow analysis of change. In our specific case, I use the ECHP to analyse transitions between the joint labour market statuses and in particular, transitions to and from dual joblessness. I use transition models in Chapters 5 and 6.

In Chapter 5, I exploit the fact that the rates of dual joblessness (or unemployment, poverty, marriage, and so on) are easy to decompose into inflows to dual joblessness and outflows from dual joblessness. Building on this fact, I analyse the cross-national variation in dual joblessness as a function of these flows.

I further analyse specific transitions to and from dual joblessness with event-history (or survival/hazard regression) models. These models express the transition probability (or more precisely, the hazard) of a transition in terms of selected covariates, as in normal regression analysis (Yamaguchi, 1991; Blossfeld and Rohwer, 2002). Event-history models were explicitly developed to model duration data, where a number of spells are routinely censored from the right, that is, the spell has not ended at the time of measurement (person is still unemployed, for example). If right-censoring is exogenous to the process, event-history methods can easily handle it. A bigger problem is left-censoring, that is, the spell has started before the observation window. Left-censoring is common in panel data, where retrospective information before the first interview is not available. In such cases, the estimates may suffer from sample-selection bias. This problem is particularly serious in case of duration dependency, that is, the duration in a state affects the exit rate from it. There has been quite some research on duration dependency in unemployment. According to a survey of the results, there is very little evidence of true duration dependency in most countries (Machin and Manning, 1999: 3117).[29]

I analyse transition data also in Chapter 6. In this case, I model the transition rates between the four-class joint employment status variable. A standard approach to this is the so-called competing risk model (ibid.), in which the unit of analysis can move between more than two statuses. For example, a single person may start cohabiting or get married. In our case, a dually jobless couple may move to dual employment, employment of the husband only, or employment of the wife only. I extend the competing risk framework to take into account not only the characteristics of each couple, but also the utility of being in a specific status (in this case, the expected social benefits in each status), with conditional logit modelling. I explain the details of this analysis in the chapter.

4.4 Some preliminary results

In what follows, I present some preliminary results of dual joblessness in Europe. Tables 4.5 and 4.6 already presented some data on average European dual joblessness rates between 1994 and 2000. The rates of dual joblessness varied widely. The lowest rates were in Denmark and the highest in Ireland. Dual joblessness was rather common also in Italy and

[29] There can of course be sample selection on a range of unobservable factors.

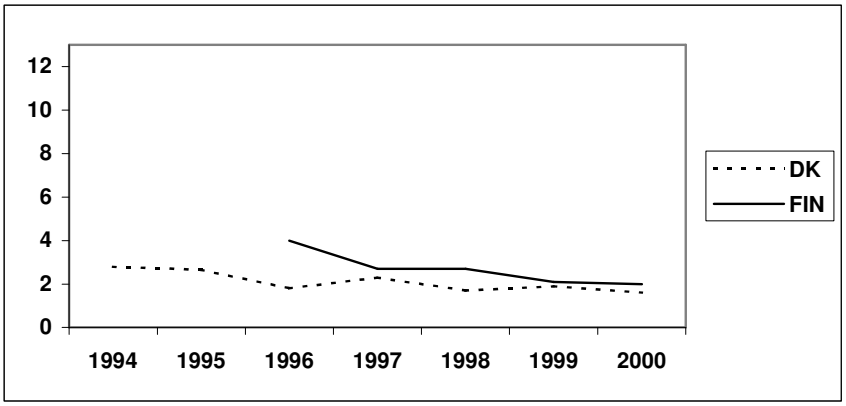
Spain. The dynamic sources of this cross-national variation are analysed more closely in the next chapter. In this section, I instead present descriptive results, namely on the trends in dual joblessness, dual joblessness by background variables, information on the longitudinal nature of dual joblessness, and job search among dually jobless couples. The dual joblessness variable used in this section is the monthly one, except in the job search figures, in which I use annual data.

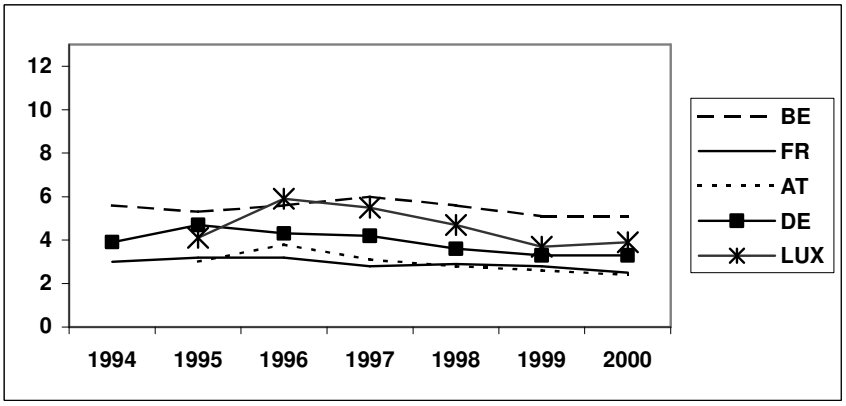
4.4.1 Trends and cross-national variation

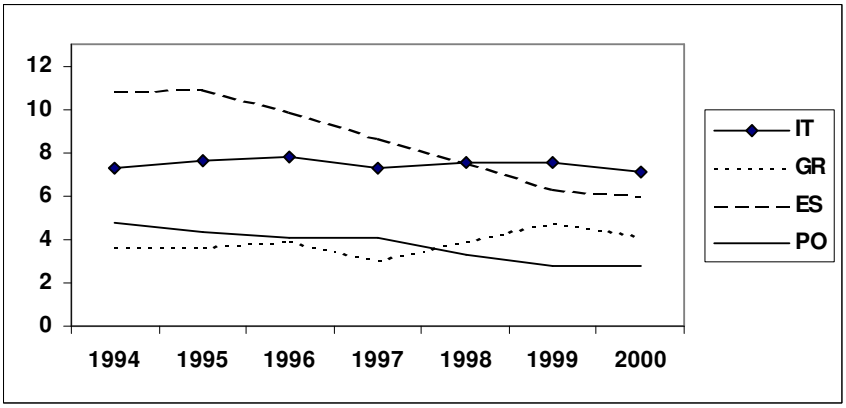
Figures 4.1a to 4.1d show the trends in dual joblessness rates from 1994 to 2000. In general, dual joblessness rates remained rather stable or decreased. The rates fell dramatically in Ireland and Spain, which are also the countries where unemployment fell from high levels during this period (see Figures 2.2a to 2.2d). Dual joblessness rates fell with the economic recovery also in other countries, such as Finland and the United Kingdom (cf. Gregg and Wadsworth, 2003).

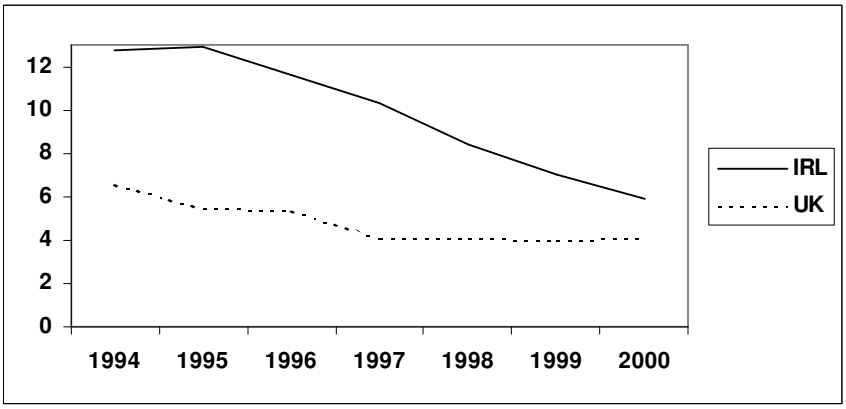
Next, I briefly examine the ways in which dual joblessness rates corresponded to overall labour market conditions and developments. I use unemployment rates as a measure of labour market performance, as it measures the share those workers who want a job but do not have one. Employment rates obviously depend partly on unemployment rates, but also reflect other aspects of labour supply. Since male employment rates are rather similar across our countries (e.g., OECD, 2004: 295), the main component explaining the country variation in average employment rates is the large variation in female employment rates, as discussed in the third section of Chapter 2.

Figures 4.1a to 4.1d. Trends in dual joblessness in Europe





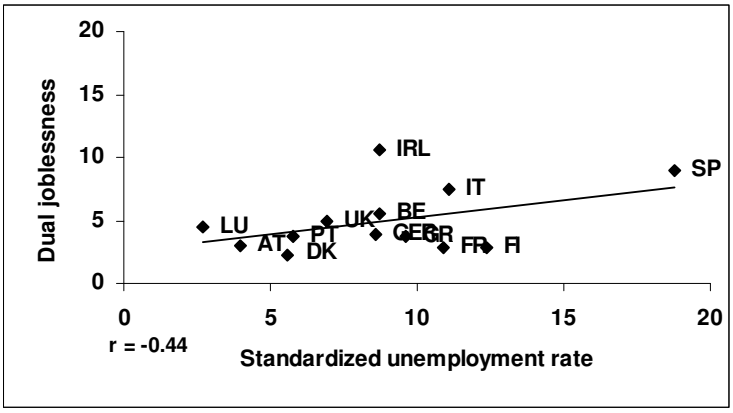




Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples. Husband 25-55 years, no students.

Therefore, Figures 4.2 and 4.3 plot the average dual joblessness rates against average unemployment and female employment rates, respectively. Unsurprisingly, average unemployment rates are positively (r = 0.44),[30] and average female employment rates negatively correlated (r = -0.63) with dual joblessness rates. Visual inspection of the plots also reveals outliers from the general trend: for example, Ireland has a higher joblessness rate than expected on the basis of the unemployment and female employment rates.

Figure 4.2. Average unemployment and dual joblessness rates, 1994-2000.



Sources: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data. Husband aged 25-55, no students.
OECD Database on Labour Force Statistics, online [stats.oecd.org].

Figure 4.3. Average female employment and dual joblessness rates, 1994-2000.

Sources: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples. Husband aged 25-55, no students.
OECD Database on Labour Force Statistics, online [stats.oecd.org].

In Table 4.8, I regress the dual joblessness rates for each year (based on the monthly measure) on unemployment and female employment rates as a simple further examination of these associations and cross-national differences in dual joblessness. The data are thus a panel of the

[30] Spain drives this correlation. Spain excluded, the correlation falls to 0.17.

thirteen countries with up to seven waves. In the first model, I include both independent variables but do not control for country fixed effects. The signs of the estimates are as expected and support the results in Figures 4.2 and 4.3. The second model controls for country fixed effects. The estimate of the unemployment rate nearly triples, and a 1 percent increase in unemployment increases dual joblessness by 0.4 percent. The estimate of female employment rates, however, decreases and becomes significant only at the 10 percent level. An interpretation of these models is that labour market performance (as measured by the unemployment rate) is an important factor driving the dual joblessness rates within countries. This corresponds to the interpretations of trends in dual joblessness discussed above (Figures 4.1a to 4.1d). Net of unemployment rates, female employment mainly affects the cross-national differences in dual joblessness instead of changes in them. Gregg and Wadsworth (2003) reported similar results in their analysis of the effects of the British economic recovery on household joblessness. The recovery decreased the rate of household joblessness, but not employment polarisation across households, which appeared more structural. In a similar manner, economic trends affect the rate of dual joblessness within countries. On the other hand, the factors affecting the cross-national variation in female employment help also in explaining differences in the more structural "baseline" rates of dual joblessness.

Table 4.8. The effects of unemployment rates and female employment rates on dual joblessness, OLS and fixed-effects regression. Country-level analysis.

	OLS	Fixed-effects
	(1)	(2)
Unemployment rate	0.145	0.434
	(0.063)	(0.078)
Female employment rate	-0.126	-0.094
	(0.048)	(0.054)
Constant	10.176	5.867
Country fixed effects	No	Yes
R squared	0.509	0.452 (overall)
N observations	87	87
N countries	13	13

Sources: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples. Husband 25-55 years, no students. OECD Database on Labour Force Statistics, online [stats.oecd.org].

In the next chapter, I examine how differences in female employment rates affect the dynamic sources of the cross-national variation in dual joblessness rates in more detail. Next, I examine how dual joblessness varies across background characteristics, longitudinal measures of dual joblessness, and job search among dually jobless couples.

4.4.2 Background characteristics and dual joblessness, longitudinal measures, and job search among dually jobless couples

Unemployment does not hit everyone in the same way; it is also reasonable to expect differences in dual joblessness rates according to the characteristics of the family. Table 4.9 confirms this expectation. In many countries, dual joblessness hits older (here, where the husband is 45 to 55 years old) couples more than younger ones. The difference is most distinct in Belgium, Italy, Luxembourg, and Portugal. In some countries, like Denmark, the age group differences in dual joblessness are smaller. In other countries, the middle age group usually has the lowest rates of dual joblessness.

Another clear background correlate of dual joblessness is education, both of the husband and of the wife. In all countries, those with high education have low, or very low, rates of dual joblessness. In contrast, couples in which the husband or the wife has a low level of education (which often go together, given the high levels of educational homogamy) have high rates dual joblessness. The educational gradient of dual joblessness is the most pronounced in Ireland, followed by Belgium and Italy.

An even clearer distinguishing line goes between couples with husbands who report having poor health, and those who do not; wife's health is of less importance.[31] Again, we can find large cross-national differences. The link between the poor health of the husband and dual joblessness is the strongest in Ireland and Belgium. An amazing half of these couples is dually jobless.[32] In other countries, such as Finland or Germany, husband's health is less associated with dual joblessness. With the exceptions of Ireland and the United Kingdom, childless couples have lower levels of dual joblessness than those with children. The levels are mainly similar among couples with children of less than school age. The effects of children are analysed further in Chapter 7.

[31] One should keep in mind the precautions for the use of this variable, as discussed above.
[32] I use health as an explanatory or control variable in all the empirical analyses. However, I do not focus on it specifically in any chapter, despite its strong correlation with dual joblessness in some countries. I return to the issue in Chapter 8, where I suggest topics for future research.

Table 4.9. Dual joblessness by background characteristics, 1994-2000.

	AT	BE	DK	FIN	FR	GER	GR	IRL	IT	LUX	PRT	SP	UK
All	3.0	5.5	2.2	2.8	2.9	3.9	3.8	10.6	7.4	4.5	3.8	8.9	4.9
Husband aged 25-34	2.0	2.8	2.8	3.4	2.7	3.3	3.2	11.0	5.8	1.3	1.5	8.3	5.2
Husband aged 35-44	2.1	4.0	2.1	1.8	2.3	2.0	1.9	8.7	3.5	2.8	1.8	6.7	3.7
Husband aged 45-55	4.5	9.1	1.9	3.3	3.7	6.0	5.7	12.2	11.3	8.4	6.8	11.4	5.7
Low education, husband	1.3	2.2	1.2	1.0	0.8	1.5	1.8	0.9	0.6	1.0	0.3	2.1	2.4
Middle education, husband	2.5	4.4	1.3	3.3	2.0	3.4	3.3	5.1	3.4	3.1	0.8	4.9	1.9
High education, husband	8.0	11.9	6.4	4.5	5.2	9.1	5.0	18.5	11.0	7.8	4.4	12.4	8.9
Low education, wife	0.3	1.6	0.7	1.6	0.9	0.6	1.3	1.0	0.4	1.2	0.6	2.1	2.3
Middle education, wife	2.0	4.2	1.0	2.9	2.0	2.8	3.3	4.9	3.1	2.7	0.8	3.7	2.5
High education, wife	6.4	13.3	8.0	5.3	4.7	9.1	5.0	19.9	11.0	6.2	4.5	12.0	7.4
Bad health, husband	18.3	49.0	21.2	14.0	17.8	12.2	22.6	54.0	27.8	..	19.2	34.9	20.7
Bad health, wife	12.7	16.6	12.5	10.4	8.7	9.2	8.5	28.0	16.6	..	10.8	20.1	14.9
Childless	4.3	7.3	2.3	3.2	3.5	4.5	6.0	6.0	11.5	7.4	6.0	10.0	3.5
Children (yes)	2.6	4.8	2.1	2.6	2.7	3.6	3.2	11.4	5.9	3.0	3.1	8.6	5.6
With kids 0-6 yrs	2.4	4.5	3.0	3.9	3.3	5.6	2.8	11.8	5.3	2.4	3.0	8.1	6.2

Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples. Husband 25-55 years, no students.

Table 4.10 goes on to display some longitudinal information on dual joblessness. The first column presents the share of couples, which experienced dual joblessness during the seven-year period. The experience of dual joblessness was more widespread than suggested by Table 4.9. In Denmark, for example, where the average dual joblessness rate was around 2 percent, 10 percent of the couples experienced dual joblessness during these seven years. In Spain, every fourth couple experienced dual joblessness, and in Ireland and Italy, every fifth and every sixth couple, respectively, was dually jobless for at least one month during the period. The difference between the average rates and the share experiencing dual joblessness suggests that dual joblessness is not only a problem for some more or less permanently excluded group.

Table 4.10. Longitudinal measures of dual joblessness and weak coupled labour market attachment in Europe, 1994-2000.

	Experienced dual joblessness	Repeated dual joblessness	Expected duration of dual joblessness, months[3]
Austria [1]	10.8	4.1	11.0
Belgium	12.1	3.0	33.7
Denmark	10.9	3.8	13.7
Finland [2]	13.1	5.0	8.3
France	11.2	4.3	14.6
Germany	12.1	3.6	19.9
Greece	13.3	5.9	11.6
Luxembourg [1]	12.2	1.8	24.4
Ireland	20.0	6.2	27.0
Italy	17.9	6.1	20.5
Portugal	11.4	3.0	21.0
Spain	25.5	12.5	11.0
UK	13.4	10.0	22.9

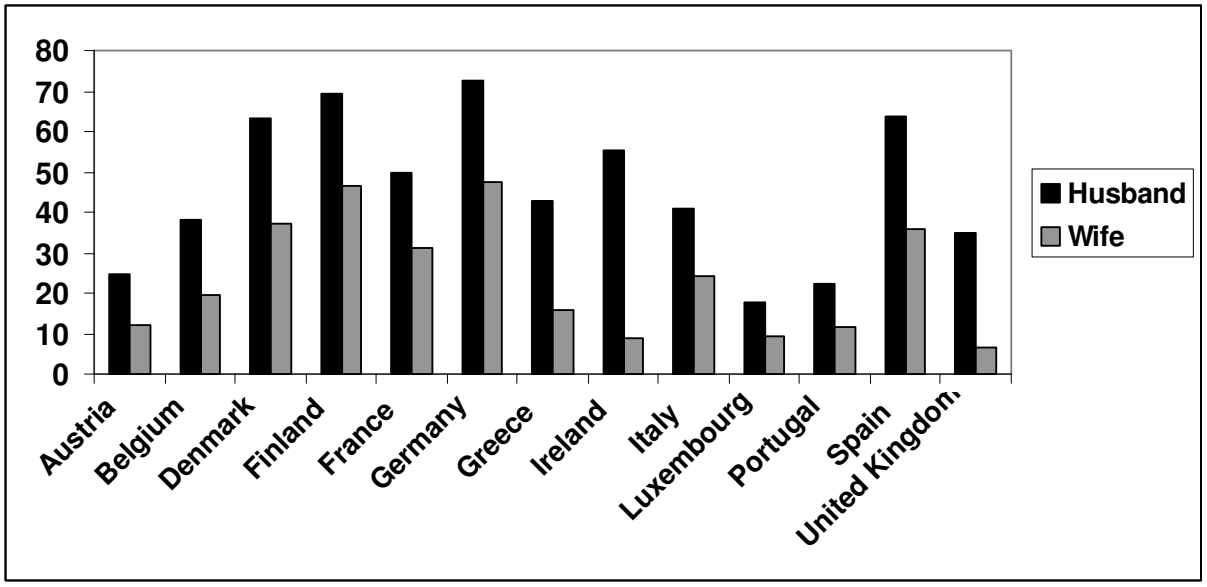
Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, monthly data of couples. Husband 25-55 years, no students.
[1] The Austrian and Luxembourgish data cover only 72 months
[2] The Finnish data cover only 60 months
[3] Calculated as 1/exit rate, from Table 5.4.
[4] Refers to the share of couples, who experienced half of the observed spells in dual joblessness

The second column shows the share of couples, which experienced repeated dual joblessness, that is, experienced at least two spells. The shares were the highest in Spain and the United Kingdom. In the United Kingdom, a spell of dual joblessness is often followed by another spell, as we can see by comparing the figures from the first and the second columns. In the other countries, the difference is smaller. In Luxembourg, one sixth of couples that experienced dual joblessness had at least two spells. In the rest of the countries, the share is between 25 and 50 percent. The last column of the table displays the expected duration of dual

joblessness.[33] Again, we see wide cross-national variation. In Finland, a couple that becomes dually jobless can expect to remain in the state for 8 months. In Belgium, the expected duration is an astonishing 34 months. The expected durations are above two years also in Ireland and Luxembourg. The expected durations of dual joblessness are less than a year also in Austria, Greece, and Spain. The cross-national variation in the durations of dual joblessness are analysed further in Chapter 5.

Finally, Figure 4.4 gives the share of husbands and wives of dually jobless couples, who were looking for work. In every country, husbands are more likely to look for work than their wives.[34] What is more striking is the low rate of job seekers in many countries, even among husbands. Gregg and Wadsworth presented similar results on household inactivity in the United Kingdom (Gregg and Wadsworth, 2001). The job search rate of husbands is 50 percent or above only in six countries. These are interesting results. Although I do not analyse dual unemployment or dual inactivity in any of the empirical chapters, I return to these figures in the concluding chapter, Chapter 8.

Figure 4.4. Job search among dually jobless couples



Source: Eurostat (2003) European Community Household Panel (ECHP), waves 1-8, annual data of couples. Husband ages 25-55 years, no students.

[33] I calculated the expected duration of dual joblessness as 1/(exit rate from dual joblessness) with the figures from Chapter 5. This relationship holds, if the exit rates do not vary by duration. Since this assumption may not hold, the expected durations here are rather rough estimates.
[34] In all countries except Denmark, Finland, and France, more than half of these wives mentioned "housework" as their main activity during dual joblessness (not shown).

4.5 Conclusions

In this chapter, I presented the data, some common methods for analysing panel data, and descriptive results on dual joblessness in Europe. The European Community Household Panel, the ECHP, is a widely-used data-set for comparative studies on the levels of living in Europe. It contains data on fifteen European countries. I include thirteen of these countries in the dissertation: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, and the United Kingdom. In the following chapters, I make some further restrictions to this sample. The ECHP is a household panel, and it contains information on all household members. I used this feature to match information on partners and their households to create the data files that are used in the empirical analyses. The baseline data file includes couples, in which the husband is aged 25 to 55 and neither partner is a student. In Chapter 7, I use a different age restriction, which I discuss respectively.

Panel data enable users to control for unobserved heterogeneity, that is, time-invariant unobserved factors that affect both the outcome and the independent variables. A common group of methods used for this purpose is fixed-effects regression methods. I use fixed-effects logit modelling to analyse the effects of the number and age of children on dual joblessness in Chapter 7. Many researchers also use panel data to analyse social dynamics. Event-history regression is well suited for analysis of transition rates. This method relates transition rates to explanatory variables in the same way as normal regression methods. I analyse transition rates with event-history models and related methods in Chapters 5 and 6.

Dual joblessness rates varied widely across Europe in the 1990s. The lowest average rate was in Denmark and the highest in Ireland. In several countries, the rates of dual joblessness decreased from the mid-1990s to 2000 as responses to economic recoveries. Dual joblessness risks vary by the characteristics of the family. Dual joblessness was particularly high among couples, in which the husband had health problems, or in which the partners had low levels of education. In some countries, older couples were also more likely to be dually jobless than other couples. Over the seven-year span (1994-2000), dual joblessness hit 10 to 25 percent of the couples. This suggests that dual joblessness was not a problem of a particular group only. However, the expected duration of dual joblessness can be very long. Many dually jobless couples were practically inactive and had low rates of job search.

5 DUAL JOBLESSNESS IN EUROPE: A DYNAMIC ANALYSIS

5.1 Introduction

Why do rates of dual joblessness rates vary across Europe? Despite the importance of this manifestation of social inequality in Europe (Table 5.1), limited research has aimed to answer this question. The preliminary results from the analyses with country-level panel data in the previous chapter suggested that labour market performance (as measured by unemployment rates) is more important for explaining changes in dual joblessness within countries than female employment rates. However, the latter do contribute to understanding the cross-national variation in dual joblessness. Previous cross-national research, which has focused mainly on employment polarisation and the labour supply of the wives of unemployed men has often stressed the differences in social provision systems across countries, and in particular, the role of means testing in the United Kingdom and Ireland in explaining the high rates of polarisation in these countries (see Chapter 3.3.2.5).

The understanding of the causes underlying the cross-national differences in dual joblessness and employment polarisation remains limited. Iacovou (2001: 23-24) pointed out that social benefits–based explanations are likely to have their limits, and a better understanding of the cross-national differences should look in more detail into the institutions of each country. She also stressed the limits of simple explanations based on welfare regime categories: the variation within welfare regimes is too wide to be unacknowledged. Furthermore, she suggested dynamic instead of static approaches as a potentially fruitful line of future research.

Table 5.1. Dual joblessness rates in thirteen European countries, 1994-2000 (average).

	AT	*BE*	*DK*	*FI*	*FR*	*GER*	*GR*	*IRL*	*IT*	*LU*	*PO*	*SP*	*UK*
Dual joblessness	3.0	5.5	2.2	2.8	2.9	3.9	3.8	10.6	7.4	4.5	3.8	8.9	4.9

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband 25-55 years old, no students.

The purpose of this chapter is to improve understanding of European differences in dual joblessness with a dynamic approach. I decompose the differences in the rates of dual joblessness into dynamic differences in inflows and outflows. These dynamics are also of interest in themselves. Moreover, static differences in dual joblessness rates can result from differences in either dynamic. On the other hand, two similar dual joblessness rates can hide considerable differences in the dynamics of dual joblessness (see, e.g. Blanchard and

Portugal, 2001, for a similar analysis on unemployment rates and dynamics, and Bane and Ellwood, 1986, on poverty). A shortcoming of the previous literature is, I believe, precisely the shortage of analyses that combine country comparisons with dynamic approaches, despite calls for such research in the methodological literature (Blossfeld, 1996; Mayer, 2005). The dynamic analyses that exist have focused primarily on the labour market dynamics of the wives of jobless men (Giannelli and Micklewright, 1995; McGinnity, 2002; however, De Graaf and Ultee, 1991). However, as we will see in this chapter, the employment dynamics of husbands are crucial for understanding the dynamics of dual joblessness.

I first discuss the expected European differences in dual joblessness flows – and consequently, in rates of dual joblessness – building on a dynamic model of dual joblessness, previous studies, and the literature on welfare states, families, and labour markets in Europe. This model drives the empirical analyses of monthly labour market data from thirteen ECHP countries (EU15 minus Sweden and the Netherlands) and 28,517 couples, in which I first decompose dual joblessness rates into their inflow and outflow components, and then analyse the most important factors producing the observed cross-national differences in dual joblessness with further decompositions and event-history analysis.

5.2 Explanations for the comparative differences

5.2.1 A dynamic approach

Differences in the rates of dual joblessness depend on differences in flows into and out of dual joblessness, as shown by the following equation (cf. Azmat et al., 2006: 11):

$$r = \frac{\lambda_{in}}{\lambda_{out} + \lambda_{in}} \qquad (5.1).$$

Here r is the steady-state rate of dual joblessness, λ_{in} is the transition rate to dual joblessness (from at least the other partner employed), and λ_{out} is the transition rate from dual joblessness (to employment of at least the other partner). The rates of dual joblessness thus depend on the incidence risks of dual joblessness and its durations. The decomposition of rates into flows is a common analytical approach in research on unemployment differences between countries and social groups (e.g., Mincer, 1991; Blanchard and Portugal, 2001; Azmat et al., 2006), but has not yet been applied in research on household joblessness.

It is possible to decompose the inflow and outflow rates further by recognizing more than two joint labour market statuses and the transitions between them. Here – to keep the model manageable – I use a simple four-state model of the partners' employment – non-employment combinations: dual employment (both work), "male breadwinning" (husband only works), "female breadwinning" (wife only works), and dual joblessness (both jobless). The inflows and the outflows decompose to

$$\lambda_{in} = a_1\lambda_{du} + a_2\lambda_{mu} + a_3\lambda_{fu} \quad (5.2),$$

and

$$\lambda_{out} = \lambda_{ud} + \lambda_{um} + \lambda_{uf} \quad (5.3),$$

where $\lambda_{du}, \lambda_{mu}$ and λ_{fu} are the transition rates to dual joblessness from dual employment, male breadwinning and female breadwinning, and $\lambda_{ud}, \lambda_{um}$ and λ_{uf} are the transition rates from dual joblessness to these states, respectively. The weights a_1, a_2, and a_3 are the couple's probabilities of dual employment, male breadwinning, and female breadwinning, respectively, conditional on not being dually jobless. They add up to one. In event-history analysis language, they represent the different origin states (cf. Blossfeld and Rohwer, 2002). The first decomposition (Equation (2)) tells that the country differences in inflows depend on the distribution of the origin states – that is, the national "breadwinner models" – and the inflow rates from these origin states. The second equation (3) implies that the differences in outflows depend on the outflows from dual joblessness to the alternative destination states.

Based on these decompositions, I next discuss the expected mechanisms behind the differences in the dynamics, and consequently, the rates of dual joblessness in Europe.

5.2.2 Differences in inflow rates

The national differences in the incidence (inflows) of dual joblessness depend on the cross-national differences in breadwinner models and the differences in the inflows from each breadwinning status. It is safe to expect that the risk of dual joblessness is lower when both

partners work instead of just one. This generalizes to a hypothesis that the incidence rates of dual joblessness are lower in countries with more dually working couples (cf. Esping-Andersen, 1999: 162). Female breadwinner couples constitute a small minority (less than 5 percent) everywhere in Europe (see Table 4.5 in the previous chapter). We can thus expect that the European variation in the shares of dual earner versus male breadwinner families create the main source of difference in the breadwinner component of inflows.

Despite the lower risk of dual joblessness and the other economic benefits of the dual earner model, many European couples divide market work and household tasks so that only one partner, practically always the husband, is in paid employment. This can be a rational strategy in resource-constrained households (Becker, 1981), particularly when wages are high, marriages stable, and unemployment risks low. Cultural views of the proper gender division of work have further strengthened this division of family labour (see Chapter 2). However, female homemaking has often changed from a marriage-long career to a transitional phase during special periods, such as the children's early years (Blossfeld and Drobnič, 2001). Consequently, dual earner couples have become increasingly common across Europe.

Despite this partial convergence, female employment rates and the shares of dual earner couples varied visibly in Europe, as seen in Chapter 2 and Table 5.2. In the 1990s, the Nordic countries had the highest rate of female employment and the highest share of dual earner couples, while Greece, Italy, Spain, and Luxembourg were at the other end of the scale. In that chapter, I also discussed some explanations for this variance. Summing up the discussion, researchers have paid maybe the most attention to the role of public policies that support the employment of mothers. Parental leave schemes and publicly provided or substituted childcare promote female employment (Gornick et al., 1998; Ruhm, 1998; Esping-Andersen, 1999; Jaumotte, 2003). In Chapter 2, I also discussed explanations that stress the role of "female friendly" employment possibilities, labour market regulation, and wage setting systems. The expansion of the service sector, and especially in the European context, the increases in public sector service jobs has made employment more attractive to women (e.g., Mandel and Semyonov, 2006). Compressed wages may increase female labour supply, but tight labour market regulation can reduce female employment. Finally, variation in gender roles and employers' preferences for male employment may contribute to the differences in female employment.

If the breadwinner component drives the differences in dual joblessness incidence, we may expect that the incidence of dual joblessness is low in the Nordic countries, followed by the United Kingdom and the Continental countries. Dual joblessness incidence should be the highest in the Southern countries (with the exception of Portugal), Ireland, and Luxembourg.

Alternatively, the national differences in dual joblessness incidence can result from variation in employment security (Equation 5.2). Despite claims of a general downgrading of employment security, unemployment risks vary remarkably across the industrialized countries, including Europe (OECD, 1997; 2004; DiPrete, 2005; Azmat et al., 2006; Blossfeld et al., 2006). Inside countries, there are important group differences. Workers with high education and experience have relatively low unemployment risks partly because of lower lay-off risks and partly because of higher probabilities of instantly finding a new job (Mincer, 1991). Furthermore, smaller and younger firms within the service sector tend to have higher rates of job destruction (Gómez-Salvador et al., 2004). Thus, the structure of the economy and the workforce can shape the comparative differences in employment security.

However, there has been more interest in the effects of employment protection legislation (EPL). Strict employment protection both reduces lay-off risks and gives workers time to respond to expected job losses. As one would expect, strict EPL is associated with low unemployment incidence (e.g., Gangl, 2003: 36; OECD, 2004). Even though EPL is tighter everywhere in Europe than in the United States, European labour markets are very heterogeneous in this respect. Liberal dismissal rules characterise the British and Irish labour markets. At the other end, Southern European countries have strict employment protection laws (OECD, 2004; Table 5.2).

However, not all workers enjoy strict employment protection. Job insecurity can be remarkably high even in such high or modest employment protection countries as Spain, France, and Germany, primarily because of the rising share of workers on temporary contracts (DiPrete, 2005; Maurin and Postel-Vinau, 2005). In the 1990s, increases in temporary employment were responsible for most job growth in Europe. Yet its share ranged from a low of less than five percent in Luxembourg to fifteen percent and above in France, Finland, and Portugal, and up to approximately one third in Spain (OECD, 2002; Polavieja, 2002).[35] Many

[35] Within countries, it is mainly the young and the low-skilled who take the brunt of work on temporary contracts (e.g., DiPrete et al., 2006).

workers on temporary contracts move to joblessness after the expiration of the contract, and the dynamics of temporary jobs have become a major component of overall employment dynamics in Europe (European Commission, 2004; Gagliarducci, 2005; DiPrete et al., 2006).

Table 5.2. Descriptive data on thirteen European countries

	Dually employed couples, %	Employment protection index	Temporary contracts, %	Centralisation/ Coordination of wage setting	Unemployment benefit system
Austria	57	2.4	8	Intermediate	UI, UA (MT)
Belgium	65	2.5	9	Intermediate	UI
Denmark	81	1.8	10	Intermediate	UI
Finland	72	2.2	17	High	UI, UA (MT)
France	66	2.8	15	Low	UI, UA (MT)
Germany	64	2.6	13	Intermediate	UI, UA (MT)
Greece	44	3.5	13	Intermediate	UI
Ireland	42	1.2	4	Intermediate	UI, UA (MT)
Italy	37	3.1	10	Intermediate	UI
Luxembourg	37	n.a.	3	Intermediate	MT
Portugal	61	3.7	21	High	UI, UA (MT)
Spain	32	3.0	32	Intermediate	UI, UA (MT)
United Kingdom	70	1.0	7	Low	UI, UA (MT)

Abbreviations: UI = Unemployment insurance, UA = Unemployment assistance, MT = Means-tested
Sources: % dually jobless of couples in which the husband is 25-55 years old and neither partner is studying, ECHP, own calculations; Employment protection index, late 1990s, OECD (2004), version 2; Temporary contracts at 2000, OECD (2002); Centralisation/coordination of wage setting, OECD (2004) except Greece, based on Kapopoulos and Papadimitriou (2004); Unemployment benefit system, MISSOC (various years).

Summing up, we can expect that dual joblessness incidence rates are lower in countries with tight EPL, few jobs with temporary contracts, and a well-established dual earner model. However, there is no such country in our European sample. In contrast, EPL tends to be tighter in countries with more male breadwinner couples (with the opposite exceptions of Ireland and Portugal). This no coincidence, since the strict employment protection regimes in Continental and Southern Europe were in part built precisely to protect the male breadwinner family against unemployment (Esping-Andersen, 1996; 1999). The share of temporary jobs correlates positively with EPL (Polavieja, 2006: Figure 5), but there is no clear relationship between the spread of temporary employment and the dominant male breadwinner pattern. We can expect that countries with a prevailing male breadwinner model combined with low employment protection (Ireland) or a large share of temporary jobs (Spain) have high rates of dual joblessness incidence.

Whether European variation in breadwinner models is more important in explaining variation in dual joblessness incidence than the differences in employment protection remains an open

question. We can expect that dual earner couples have low risks of dual joblessness. However, employment protection tends to be stricter in male breadwinner countries. Therefore, the ways in which the dual joblessness risks of couples translate to differences at the population level is fundamentally an empirical question.

5.2.3 Differences in outflow rates

Following Equation (5.3), differences in dual joblessness outflows (and thus, durations) depend on country variations in outflows to some or all destination states. Since the transition rates from dual joblessness to dual employment are likely to be small, the former depend mainly on differences in transitions to male versus female breadwinning.

One of the central explanations for the low labour supply of the wives of jobless men states that the budget constraint created by means tested social benefits that depend on the incomes of other family members create disincentives for accepting work if the spouse is jobless (see Chapter 3, Section 3). Accordingly, comparative studies on the topic have concluded that the European differences in the role of means tested benefits explain part of the variation (Dex et al., 1995; De Graaf and Ultee, 2000; McGinnity, 2002). In Europe, last resort social assistance is means tested in every country, whereas the situation is more heterogeneous in the case of unemployment benefits (MISSOC, various years; Table 5.2). Means testing has an important role in the United Kingdom and Ireland, and researchers have used this feature to explain the high accumulation joblessness in these two countries (ibid.; Garcia, 1991; Davies et al., 1994; Giannelli and Micklewright, 1995; for a sceptic, see Doris, 1998).

The above explanation stresses social benefits that are likely to affect dually jobless couples more strongly than other non-working people. However, dual joblessness can be part of the wider unemployment problem in Europe so that similar mechanisms affect the duration of both. Unemployment durations vary widely across Europe (e.g., OECD, 2004; Machin and Manning, 1999; Cahuc and Zylberberg, 2004). I discussed the institutional factors affecting unemployment durations in Chapter 2. Here I summarise the main arguments. The previous literature has in particular discussed the importance unemployment compensation, EPL, and wage bargaining processes. Generous unemployment benefits reduce the exit rate from unemployment, although the estimated effects are generally modest. What seems to be more important is the duration of these benefits. Indeed, unemployment exits peak around the date of exhaustion of unemployment compensation. (Atkinson and Micklewright, 1991; Machin

and Manning, 1999; Cahuc and Zylbergberg, 2004.) The generosity and duration of unemployment benefits varies across Europe (Table A5.1 in the appendix to the chapter), and this can explain variation in the durations of dual joblessness (see Table 4.8).

Strict employment protection laws may depress job creation and thus increase unemployment duration (OECD, 2004). There is also some evidence that EPL may have relatively worse effects on the employment of groups with poorer labour market characteristics (Esping-Andersen, 2001; Kahn, 2007). Strict EPL can thus increase the duration of dual joblessness by reducing job flows in general, and by harming the employment prospects of dually jobless couples, which often have low labour market resources (see Table 4.7).

Wage bargaining systems can have similar effects. The empirical evidence on the (un)employment effects of wage bargaining systems is somewhat ambiguous (e.g., OECD, 2004). Some research suggests that centralised wage bargaining systems depress employment, whereas other studies suggest that the relationship is non-linear, with highly centralised or coordinated and highly dispersed systems both producing high employment (Calmfors and Drifill, 1988). Centralised and unionised wage setting practices can also decrease the relative employment possibilities of sub-groups (Bertola et al., 2002).

We can also point to a factor that I did not discuss in Chapter 2, namely home-ownership. The role of home-ownership for employment performance has gained recent interest (cf. Nickell et al., 2005; Bassanini and Duvall, 2006). Home-owners are less likely to migrate to another region with better employment prospects. Since home-ownership rates vary strongly across Europe (OECD, 2005), and dual joblessness often has a strong regional character (Gregg and Wadsworth, 2001), we can expect that dually jobless home-owners can have lower transition rates to employment.[36]

Finally, the characteristics of dually jobless couples may vary across countries, as suggested by Table 4.7. For example, dually jobless couples in countries with low incidence of dual joblessness may represent a “hard core” of coupled joblessness (Esping-Andersen, 2002). In other words, it is important to control for the labour market characteristics of dually jobless couples.

[36] On the other hand, home-owners with mortgages to pay have higher incentives for quick re-employment.

As will be discussed in more detail in the next chapter, dually jobless couples may be more inclined to choose male instead of female breadwinning (see also Chapter 3). The reasons include family obligations, human capital and wage differentials between the spouses, and couples' cultural distaste for female breadwinning – the so-called macho-effect (McKee and Bell, 1985). These mechanisms can increase the durations of dual joblessness by reducing the number of job seekers from two to one. This can vary across countries. Considering the European differences in female employment and family institutions, one could expect that wives are more reluctant to take the breadwinner role in some countries than in others. For example, Danish women who commonly partake in employment can be expected to take the breadwinner role more eagerly than Spanish women. If so, Danish couples may have two suppliers of labour instead of one, which should shorten the duration of the spell of dual joblessness.

Wrapping up the discussion on the country variation in the durations of dual joblessness, we can expect that the spells of dual joblessness are especially high in countries where means testing has an important role in the social security system, EPL is strict, unemployment benefits are generous and long-lasting, and the family institution is more "traditionalist". Again, these features do not accumulate in any straightforward manner. The UK and Ireland are the countries most relying on benefit means testing, but only the latter has a more traditionalist family model, both have low EPL, and neither is known for benefit generosity. The Southern countries have strict EPL and more traditional family patterns, but do not rely on means testing and do not usually have generous benefits, unlike the continental countries, which score lower on the other two features. There are no *a priori* reasons to expect that one institutional or structural feature would dominate the others.

5.3 Data

The sample used in this chapter includes thirteen of the fifteen ECHP countries. The main dependent variable – the joint labour market status of the couple – was constructed using the retrospective monthly labour market status variable, the "Calendar of activities" (Eurostat, 2003). For the Netherlands, this variable was missing. The Swedish data were cross-sectional only, and thus not suitable for the dynamic analyses. In the following analyses, I use matched partner data from the remaining thirteen countries for 28,517 couples, where neither spouse was a student, and the husband was 25 to 55 years old. Since the monthly activity variable is

retrospective and records labour market activity for the previous year to the interview, I merged the independent variables to the labour market variables for each year, when appropriate. The complete sample thus corresponds to the years 1994 to 2000.

I describe the methods in more detail during the course of the analysis.

Table 5.3. Descriptive information of the variables: means and percentages of couple-months

	Inflow analysis	Outflow analysis
N couples	13,315	3,860
Average transition rate	0.65	6.17
Age of husband: 25-34 yrs, %	20.87	18.02
Age of husband: 35-44 yrs, %	37.29	25.40
Age of husband: 45-55 yrs, %	41.84	56.58
Education of husband: High, %	16.75	6.24
Education of husband: Middle, %	36.56	20.14
Education of husband: Low, %	46.69	73.61
Education of wife: High, %	9.97	4.96
Education of wife: Middle, %	35.84	17.90
Education of wife: Low, %	54.19	77.14
Bad health – husband, %	4.02	20.16
Bad health – wife, %		13.13
Jobless > year, husband, %		84.52
Jobless > year, wife, %		93.84
Number of children		1.42
Children <3 years, %		19.29
Regional unemployment rate		13.74
Permanent contract	55.42	
Atypical contract	6.28	
Contract type unknown	38.29	
Tenure husband – 0-1 yrs.	12.80	
Tenure husband – 2-4 yrs.	12.71	
Tenure husband – 5+ yrs.	74.48	
Professional profession	26.67	
Intermediate profession	15.10	
Skilled manual profession	49.32	
Unskilled manual profession	8.91	
Service sector	46.34	
Industry sector	45.79	
Agriculture sector	7.86	
Private sector, <50 employees	46.42	
Private sector, ≥ 50 employees	45.62	
Public sector	7.97	
Employment protection index	2.84	2.67
Social assistance or housing benefits, %		21.49
Unemployment benefit - husband, %		40.46
Unemployment benefit - wife, %		13.03
Average replacement rate		0.64
Duration of unemployment benefits		1.28
Centralization/coordination		3.12
Wage bargaining coverage		78.65
Structural change indicator		7.28
Denmark	1.99	1.45
Finland	2.74	1.88
Germany	18.73	6.79
Austria	3.98	2.74
France	4.96	7.04
Belgium	8.49	5.94
Portugal	5.50	6.97
Spain	8.82	21.38
Italy	17.74	21.48
Greece	18.93	7.20
Ireland	5.96	11.08
United Kingdom	2.70	6.06

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband 25-55 years old, no students.

5.4 Results

5.4.1 Country variation in inflows and outflows

Table 5.4 describes the country variation in inflows and outflows. The first three columns present the average monthly transition rates (in percentages) to and from dual joblessness, and the static-state dual joblessness rate estimated from Equation (5.1), separately for each country. The countries are in the ascending order of the estimated steady-state rates of dual joblessness. The estimated rates differ somewhat from those in Table 5.1, because of the non-static state of the (coupled) labour market.

Table 5.4. Flows into and out of dual joblessness

	Monthly inflow rate, % (1)	Monthly outflow rate, % (2)	Implied static rate (3)	Ratio of inflows (4)	Ratio of outflows (5)	Ratio of static-state rates (6)
DK	0.13	7.32	1.74	1	1	1
FR	0.21	6.84	2.98	1.62	0.93	1.71
AT	0.31	9.10	3.29	2.38	1.24	1.89
FIN	0.33	12.04	2.67	2.53	1.64	1.53
PO	0.21	4.76	4.23	1.62	0.65	2.43
GR	0.39	8.36	4.46	3.00	1.14	2.56
UK	0.21	4.37	4.59	1.62	0.60	2.64
DE	0.25	5.02	4.74	1.92	0.69	2.72
LUX	0.23	4.09	5.45	1.77	0.56	3.13
BE	0.21	2.97	6.60	1.62	0.41	3.79
IT	0.45	4.87	8.46	3.46	0.67	4.86
ES	0.94	9.06	9.40	7.23	1.24	5.40
IRL	0.39	3.71	9.51	3.00	0.51	5.47

Source: Eurostat (2003) European Community Household Pane*l*, waves 1-8, monthly data of couples, husband 25-55 years old, no students.

The monthly dual joblessness incidence rates are less than one percent in each country. It is worthwhile noticing that these small transition rates are in general not dramatically lower than individual transition rates to unemployment (e.g., Azmat et al., 2006: 13-4). More importantly, the inflow rates to show visible cross-national variation. The lowest inflow rate is in Denmark. In half of the countries, the monthly inflow rates are approximately 0.20 percent. Spain is the clear outlier with a high inflow hazard of 0.94.[37] The monthly hazard rates in the other countries are between 0.3 and 0.45 percent. Note also that the inflow rates do not correspond in any straightforward way to the rates of dual joblessness. In general, however, countries with more traditional family patterns have higher inflow rates (over 0.3). Finland is

[37] High transition rates into unemployment for Spain have also been found for individual labour market dynamics (Azmat et al., 2006: Tables 3 and 4). Azmat and colleagues checked their results against national Spanish data and found similar transition rates. Therefore, the results presented here are unlikely to be artefacts of the data used.

a partial exception. At the other end, Luxembourg, a country with a continuously strong male breadwinner family model, has a low inflow rate.

The monthly outflow rates vary widely as well. Unlike the inflow rates, which cluster more, the outflow rates spread out. Again, no direct relation with the outflow rates and rates of dual joblessness can be observed. This spread also escapes any common country classifications. The lowest rates – and thus, the longest average durations – are found from Belgium and Ireland, while the highest exit rates and shortest average durations are in Finland (see Table 4.8). The outflow rates are below five percent in the "liberal" countries of the UK and Ireland, but also in Belgium, Italy, Portugal, and Luxembourg. Of the Nordic duo, the Finnish outflow rates are nearly the double of the Danish ones.

Which flows are more important in explaining the European variation in dual joblessness rates? Columns 4 and 5 present the ratio of the inflow rates and the ratio of the outflow rates between each country and Denmark. The last column displays the ratio of the estimated steady-state rates. An increase in the ratio of the inflow rates has the same effect on the ratio of the steady-state rates as a proportionately equal decrease in the ratio of the outflow rates (cf. also Azmat et al., 2006: 17). The ratio of the steady state dual joblessness rates between country i (r_i) and the country of reference (Denmark, r_{ref}) can be expressed as:

$$\frac{r_i}{r_{ref}} = \frac{\lambda_{inref} + \lambda_{outref}}{\lambda_{inref} + a\lambda_{outref} / b} \qquad (5.4),$$

where the hazards are the inflow and outflow rates in the reference country, and a and b are the ratios of the inflow rates and the outflow rates, respectively. It is clear that the ratio of the dual joblessness rates depends on the ratio of the inflow rates and the outflow rates. If the former is larger than 1, then the differences in inflow rates are more important (see Column 6).

In most cases, the inflow rates are more important than the outflow rates. Belgium is the main exception: there the lower outflow rate explains more of its higher rate of dual joblessness compared to Denmark than its higher inflow rate ($0.41^{-1} > 1.62$). In Portugal, the UK, and Luxembourg the inflow and outflow rates are of similar importance. In these countries, in

Germany, Italy, Ireland, and to a lesser extent in France, the low exit rates strengthen the effects of the high inflow rates. On the contrary, in Austria, Finland, Greece, and Spain the higher outflow rates lower the impact of the higher inflow rates. Finland is the best example. Had the outflow rate from dual joblessness been the same as in Denmark, the Finnish dual joblessness rate had been 1.5 times higher than it actually was.

Both the incidence and durations of dual joblessness vary across the thirteen European countries. While both dynamics are important for understanding the differences in the levels of dual joblessness, the variation in dual joblessness incidence matters more for the overall differences. The countries do not fully cluster into any self-evident groupings according to these dynamics, thus ruling out simple welfare regimes–based conclusions. The results already support some of the predictions. For example, the incidence rates are high in Spain and Ireland, both countries with a strong male breadwinner model and either weak EPL (Ireland) or a high share of temporary workers (Spain). However, the inflow rates are also rather high Finland with a strong dual earner family model and moderately strict labour market regulation, but low in Luxembourg with a prospering male breadwinner family model. The outflow rates, on the other hand, are high in some of the countries with high inflows (Spain, Finland), a generous unemployment compensation system (Finland, Austria), and tightly regulated labour markets (Spain, Greece). They are low in Ireland and the United Kingdom, which rely heavily on means testing, but also in Belgium, which does not. It is clear that the inflows and the outflows need to be analysed further.

5.4.2 Analysis of the cross-national differences in inflow rates

5.4.2.1 Descriptive results

Following the discussion on the factors shaping the country variation in inflows, Table 5.5 shows the distribution of the origin states (the *a*:s in Equation (5.2)) and the inflow hazards from each of these origin states. The countries are in the ascending order of the overall inflow rates. Columns 4, 7, and 10 further show the share of dual joblessness entries from each origin state to give an impression of the importance of each transition.

In each country, the inflow rates are the lowest (as expected) from dual joblessness, and the highest from female breadwinning.[38] In every country, inflows from male breadwinning

[38] In reality, the transition rates from dual employment are likely to be even lower. This is suggested by the results (not shown) indicating that approximately 40 percent of the entries from dual employment are made in

account for most of the inflows to dual joblessness. This is true even in Denmark, which has the lowest proportion of male breadwinners in our sample. In Austria and Luxembourg, 85 percent of the entries to dual joblessness are from male breadwinning. Inflows from dual earning account for a small share of all entries to dual joblessness, while up to one third of the entries are from female breadwinning (in the UK).

Table 5.5. Inflows to dual joblessness from three origin states: transition rates, distribution of origin states, and share of inflows (%).

	Overall inflow rate	Dually employed → dually jobless			Male employed → dually jobless			Female employed → dually jobless		
		Transi-tion rate	In origin state (*a1*)	Enter from origin	Transi-tion rate	In origin state (*a2*)	Enter from origin	Transi-tion rate	In origin state (*a3*)	Enter from origin
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DK	0.13	0.02	82.59	12.90	0.60	14.31	64.52	1.00	3.13	22.58
PO	0.21	0.03	62.90	8.27	0.42	33.23	66.91	1.31	3.87	24.82
BE	0.21	0.03	68.36	9.04	0.55	28.96	76.51	1.16	2.68	14.46
UK	0.21	0.03	73.35	11.05	0.59	21.50	59.47	1.18	5.14	29.47
FR	0.21	0.02	67.99	7.73	0.52	28.82	72.10	1.30	3.19	20.17
LU	0.23	0.02	38.72	2.84	0.34	58.93	85.11	1.19	2.36	12.06
DE	0.25	0.01	66.16	3.21	0.68	29.15	79.81	0.89	4.70	16.99
AT	0.31	0.02	58.30	3.05	0.70	38.29	86.80	0.91	3.41	10.15
FIN	0.33	0.04	73.78	8.00	1.06	21.30	68.00	1.59	4.91	24.00
GR	0.39	0.15	46.03	17.66	0.54	51.58	71.59	1.73	2.39	10.75
IRL	0.39	0.04	46.49	4.26	0.59	50.55	77.30	2.38	2.96	18.44
IT	0.45	0.07	45.47	6.92	0.66	50.30	72.86	2.13	4.23	20.22
ES	0.94	0.26	35.32	9.70	1.16	60.52	74.75	3.41	4.16	15.55

Source: Eurostat (2003) European Community Household Pane*l*, waves 1-8, monthly data of couples, husband 25-55 years old, no students.

5.4.2.2 Decomposition analysis

Table 5.5 shows major country differences in breadwinner models and the inflow rates from each joint employment status. Which differences matter? To analyse this, I decompose the overall inflow differences to differences in breadwinner models and the origin-state dependent transition rates with

$$\Delta\lambda_{in} = \sum_j (\Delta a_j \overline{\lambda_{inj}} + \overline{a_j} \Delta\lambda_{inj}) \qquad (5.5),$$

January, whereas the January entry rate from the other origin states is approximately 20 percent. In the former case, country variation in this "hipping effect" exists but I did not find any obvious idiosyncratic peaks in Greece or Spain, which have high inflows from dual employment.

where Δa_j and $\Delta\lambda_j$ are the differences between each country and Denmark in the proportion of couples in each breadwinner type *j*, and in the inflow rate from this origin state, and $\overline{a_j}$ and $\overline{\lambda_{inj}}$ are the means (between each country and Denmark) of the proportion of couples in each joint employment status and the transition rates, respectively. The decomposition tells us the relative importance of each difference and thus enables us to assess their contribution to the differences in the overall inflow rates. The decomposition is also exact, and is thus preferable to simple counterfactual simulations, which often do not have this property. Similar decompositions are often used to understand changes in the income distribution (e.g., Mookherhee and Shorrocks, 1982).

Table 5.6. Decomposition of inflows rates

	Inflow rate	Difference						
			Due to difference in breadwinner type			Due to difference in transition rate		
		Overall	Dual	Male	Female	Dual	Male	Female
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DK	0.13	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
PO	0.21	0.08	-0.005	0.096	0.011	0.007	-0.043	0.011
BE	0.21	0.08	-0.004	0.084	-0.005	0.008	-0.011	0.005
UK	0.21	0.08	-0.002	0.043	0.022	0.008	-0.002	0.007
FR	0.21	0.08	-0.003	0.081	0.001	0	-0.017	0.009
LUX	0.23	0.10	-0.009	0.210	-0.008	0	-0.095	0.005
DE	0.25	0.12	-0.002	0.094	0.015	-0.007	0.017	-0.003
AT	0.31	0.18	-0.005	0.156	0.000	0	0.026	-0.003
FIN	0.33	0.20	-0.003	0.058	0.023	0.016	0.082	0.024
GR	0.39	0.26	-0.031	0.212	-0.008	0.084	-0.020	0.020
IRL	0.39	0.26	-0.011	0.216	-0.003	0.013	-0.003	0.042
IT	0.45	0.32	-0.017	0.227	0.017	0.032	0.019	0.042
ES	0.94	0.81	-0.066	0.407	0.023	0.141	0.210	0.088

Source: Eurostat (2003) European Community Household Panel, waves 2-8, monthly data of couples, husband 25-55 years, no students.

Table 5.6 presents the results of the decomposition. The countries are in the ascending order of the inflow rates. The main finding is that the difference in breadwinner models, and particularly, in the strength of the male breadwinner model, is the single most important factor. Compared to Denmark, Finland is the only country where the higher inflow rate depends on other factors. There, but also in Spain, the high inflow rate from male breadwinning accounts for an important part of the higher inflow rate. In Portugal, Belgium, and France, the male breadwinner component is similar or larger than the overall difference in the inflow rates. Each country has also factors, which operate in the opposite direction and decrease the difference to Denmark. An important offsetting factor is the low transition rate from male breadwinning to dual joblessness. Luxembourg is the best example. Luxembourg

has a prevailing male breadwinner family model, which is protected against dual joblessness by the employment security enjoyed by the male breadwinner. This finding is in line with the above theoretical discussion on the roles of dual employment and employment security in protecting families against social risks. In the UK, the higher incidence of female breadwinning also increases dual joblessness incidence.

Despite the importance of breadwinner models, the decomposition also showed the role of transitions from male breadwinning. This was particularly evident in explaining the higher inflow rates in Finland and Spain. On the contrary, the low inflow rates from male breadwinning protect couples from dual joblessness in many countries, offsetting the effect of a less favourable breadwinner model. Therefore, it is worthwhile to take a closer look at the hazard rates from male breadwinning in order to get a more complete understanding of the forces shaping dual joblessness incidence.

5.4.2.3 Event-history analysis

In the following, I estimate a set of discrete-time event-history models for inflows from male breadwinning to dual joblessness. Event-history analysis enables a regression-based analysis of transition data, given that the transition has not already happened (e.g., Yamaguchi, 1991). Discrete-time models are more efficient in handling ties (events happening at the same point in time) than continuous-time models, and the incorporation of time-dependent independent variables is also easier with the former.[39]

I estimate the models using monthly data from twelve countries due to missing data on some of the variables in the Luxembourgish sample (namely, health and EPL). However, the independent variables used in the model were collected annually. I therefore linked the annual data on worker and job characteristics to the monthly data.[40] The initial problem with this solution was that the job characteristics for those male breadwinners who lost their jobs before

[39] Due to a lack of instruments, I do not control for selection bias. However, when testing with the education difference between the spouses, which should increase male breadwinning (Becker, 1981; Blossfeld and Drobnič, 2001), no evidence for such bias was found. Neither do I control for unobserved heterogeneity, due to the lack of instruments and equal interest in all the independent variables. Since male breadwinning can also end in dual employment or, more theoretically, in female breadwinning, I also tested a competing risks model, without changes to the results.

[40] The use of annual data for this exercise was not reasonable due to the wide cross-national variation in the monthly outflow rate from dual joblessness (Table 2) and the transition rate from male breadwinning to dual employment (from a low of 1.14 percent in Luxembourg to a high of 5.73 percent in Finland): the annual data thus produces a very different picture of the country variation in question.

the annual interview were not observed. Since the interviews mainly took place at the end of the year, this led to a (positively) selected sample. Therefore, I included in the sample only the months at and after the interview each year. Although this results in a reduced sample size and a loss of efficiency in estimation, there is no bias to the parameter estimates, due to the exogeneity of the month of the interview to the process studied.[41]

A main focus of the models is on the country effects. I express them as the average deviation of each country from the predicted transition rates from each model (multiplied by 100). The estimates show how well the models describe the data in each country. This approach is analogous to estimating the (latent) country effect in a random intercepts multilevel model (e.g., Snijders and Bosker, 1999).

I express the coefficients for the independent variables as standard logit estimates. The independent variables include measures of the human capital of the male breadwinner (education, age, job tenure, and health), characteristics of his job (contract type, occupation, and size and sector of the local work unit), and characteristics of the local and national labour market (EPL, regional unemployment rate). The choice of the variables follows the discussion in the theoretical part of the chapter.

[41] The estimates could, however, be biased if inflows from male breadwinning showed strong seasonality. To test this, I controlled for quarter of the year, which did not affect the other estimates.

Table 5.7. Transitions from male breadwinning to dual joblessness, discrete-time event-history models

	Model 1 Constant only	Model 2 + Job contract type	Model 3 + Employment protection	Model 4 + Controls
		Average residuals (x 100)		
Portugal	-0.271***	-0.331***	-0.215***	-0.085
France	-0.151*	-0.097	-0.079	-0.201**
Greece	-0.191***	-0.321***	-0.233***	-0.025
Belgium	-0.191***	-0.061	-0.069	-0.175*
Denmark	-0.116	-0.114	-0.280*	-0.235†
UK	-0.040	0.097	-0.183†	-0.086
Ireland	0.032	0.034	-0.264***	-0.137†
Italy	-0.099*	-0.102*	0.045	-0.139**
Germany	-0.001	0.131*	0.132*	0.078†
Austria	0.291**	0.461***	0.400***	0.653***
Finland	0.541***	0.587***	0.493***	0.484**
Spain	0.600***	0.406***	0.426***	0.220**
		Logit coefficients		
		0.984***	1.022***	0.711***
			-0.185*	-0.194**
				0.026
Contract type (ref. Permanent)				
Atypical		2.162***	2.207***	1.353***
Unknown		0.984***	1.022***	0.711***
Employment protection			-0.185*	-0.194**
Regional unemployment rate				0.026
Age (ref. 25-34)				
35-44				-0.094
45-55				0.133
Education (ref. High)				
Middle education				0.429**
Low education				0.609***
Health: Bad or very bad (d)				0.692***
Job tenure (ref. 0-1 years)				
2-4 years				-0.873***
5+ years				-1.595***
Occupation (ref. Professional)				
Intermediate				0.373**
Skilled manual				0.518**
Unskilled				0.883***
Sector (ref. Services)				
Industry				0.244**
Agriculture				0.198
Private, >50 emp. (ref. <50)				-0.015
Public				-0.049
Missing value				1.159***
Constant	-4.967***	-5.727***	-5.227***	-5.661***
Log-likelihood	-7707.967	-7307.601	-7291.244	-6472.927
Pseudo R	0	0.046	0.048	0.125
N couple-months	186,685	186,096	186,096	180,855
N events	1,219	1,282	1,282	1,223

† p<0.10; * p<0.05; ** p<0.01; *** p<0.001

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband 25-55 years old, no students.

The education variable is the ECHP's three-class variable indicating a high (tertiary, ISCED 5-7), medium (second stage of secondary, ISCED 3), or low level of attained education (ISCED 0-2). The health variable measures experienced health problems. The contract type measure has three categories, permanent contract, "atypical" contract (other than standard permanent), and "unknown". Occupation is classified as professional, intermediate, skilled manual, and unskilled. The sector of the workplace is classified according to the familiar service, industrial, and agricultural sectors-classification. Due to a large fraction of missing data for the "size of local work unit" variable in the public sector (Eurostat, 2003b), I made a variable, which combines information on the sector (public or private) and the size of the local unit, if the job is in the private sector (up to 50 employees, 50 or more employees). The EPL measure is the OECD's EPL index, obtained from Bassanini and Duval (2006) and OECD (2004) (see also Table A5.1 in the appendix to the chapter). I use the regional unemployment rate variable to proxy local labour market conditions. The models also include a variable denoting missing values for the job characteristics.[42] See Table 5.3 for descriptive data on the variables.

Table 5.7 presents the results of the event history analysis. Model 1 is an empty model with the constant only. We observe the familiar pattern with Spain having the highest inflow rates from male breadwinning. Model 2 enters the job contract type, and we see that male breadwinners with permanent contracts are well secured against dual joblessness, and the effect remains even after entering the control variables in Models 3 and 4. The third model introduces the OECD's employment protection index, and we have the expected result that stricter employment protection decreases the incidence of dual joblessness. The fourth model includes the control variables. Well-educated male breadwinners with good health, a permanent contract, and good employment protection, and who have worked for five or more years in a professional job in the service sector are particularly well insured against dual joblessness.[43]

[42] Other variables of interest, such as immigration, were excluded due to missing or unreliable information from a number of countries, such as Germany and the UK. In preliminary analysis, immigrant status had the expected effects of increasing flows into and decreasing flows out of dual joblessness, without changing the country differences very much.

[43] The "missing value" estimate is notably high. This is because many of the male breadwinners with missing job characteristics were already jobless at the time of the interview, even though the retrospective job history variables erroneously tell that they lost their job a month or few later. Omitting these cases would have resulted in important selection bias.

But do these controls explain the national differences, the main interest of the analysis? Overall, the models are not completely successful. However, they do provide insights to the forces driving the particular country differences. For example, in Spain, Greece, and Portugal the dual joblessness incidence rate for male breadwinners would be higher were it not for the high incidence of non-permanent jobs, while French, Austrian, Belgian, and German male breadwinners would have a higher risk of dual joblessness were it not for their relatively good job contracts. The employment protection regimes in Portugal, Greece, Italy, and Finland reduce the dual joblessness incidence rate, whereas the Irish, Danish, and British rates would be even lower with stricter employment protection.

The Portuguese and the Greek (and partly the Belgian and Irish) lower rates of dual joblessness incidence for male breadwinners are explained by their and their jobs' characteristics. The controls also explain part of the Spanish and German stories. In Austria the situation would be worse were it not for the favourable characteristics of the male breadwinners. Summing up, we can say that employment protection, job contracts, and the characteristics of the male breadwinners and their jobs all matter, and they partly explain the country variation. As to Spain and Finland, the two countries of primary interest, the models were more successful in explaining the high joblessness incidence of Spanish breadwinners than Finnish ones. The Finnish estimates remained surprisingly stable throughout the model building process, suggesting some idiosyncratic factors behind the high dual joblessness incidence rates for Finnish male breadwinner couples.

5.4.3 Analysis of the cross-national variation in outflow rates

5.4.3.1 Description and decomposition

Table 5.4 revealed a wide spread in dual joblessness outflows in Europe. In Table 5.8 the outflows rates are broken down into transition rates separate to each destination state (Columns 2 to 4). This time the countries are ordered in the descending order of the outflow rates (and thus, the ascending order of the durations of dual joblessness), with Finland holding the pole position and Belgium coming last. The outflow rates are by far the highest to male breadwinning, also in Denmark, Finland and the UK, where female employment rates are high. Recall from Table 5.5 that most entries to dual joblessness are from male breadwinning. This implies that most of the dynamics of dual joblessness are in fact dynamics of male breadwinners becoming jobless and the husbands in dually jobless couples becoming

employed. With the exception of Greece, the monthly exit rate to dual employment is less than one percent, and its share of all exits is small.[44]

Table 5.8. Outflow rates by destination state (columns 1-4) and decomposition of outflow differences (columns 5-8)

	Outflow hazards to				Decomposition of outflow differences			
	All	Dual employment	Male bread-winning	Female bread-winning	Overall difference	Dual employment	Male bread-winning	Female bread-winning
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIN	12.04	0.41	7.20	2.67	Ref.	Ref.	Ref.	Ref.
AT	9.10	0.32	7.84	0.69	-2.94	-0.09	0.64	-1.98
ES	9.06	0.91	6.66	1.44	-2.98	0.50	-0.54	-1.23
GR	8.36	1.39	5.85	1.06	-3.68	0.98	-1.35	-1.61
DK	7.32	0.70	4.20	1.93	-4.72	0.29	-3.00	-0.74
FR	6.84	0.50	4.45	1.41	-5.20	0.09	-2.75	-1.26
DE	5.02	0.26	3.82	0.91	-7.02	-0.15	-3.38	-1.76
IT	4.87	0.33	3.45	1.09	-7.17	-0.08	-3.75	-1.58
PO	4.76	0.45	2.90	1.28	-7.28	0.04	-4.30	-1.39
UK	4.37	0.29	2.62	1.26	-7.67	-0.12	-4.58	-1.41
LUX	4.09	0.27	3.27	0.58	-7.95	-0.14	-3.93	-2.09
IRL	3.71	0.16	2.82	0.69	-8.33	-0.25	-4.38	-1.98
BE	2.97	0.36	2.05	0.44	-9.07	-0.05	-5.15	-2.23

Source: Eurostat (2003) European Community Household Panel, waves 2-8, monthly data of couples, husband 25-55 years, no students.

Despite these similarities, the destination state specific transition rates and their relative importance vary across countries. What is the role of this variance for the overall outflow hazards? Recall from Equation (5.3) that the overall outflow rate is the sum of the exit rates to each destination state. Therefore, the country differences in the outflow rates can be decomposed with a simple equation

$$\Delta h_{out} = \sum_j \Delta h_{outj} \qquad (5.6),$$

where the h_j are the outflow rates to each destination state. The results of this decomposition are reported in Columns (5) to (8). Overall, country differences in the exit rates to male breadwinning explain most of the European differences in the durations of dual joblessness. Compared to Finland, the only exceptions are Spain, Austria, and Greece, where the differences to Finland in the exit rates to female breadwinning are larger than those to male

[44] In Greece, a smaller share of exits to dual employment happens at the change of the year than to the other destinations or in many of the other countries, contrary to what one would expect were the high Greek exit rates to dual joblessness created by recall error.

breadwinning. However, only in Austria does the lower exit rate to female breadwinning contribute a major share to the overall outflow difference in comparison to Finland. However, the overall difference between the countries is minor.

Overall, the European variation in dual joblessness durations depends mainly on the variation in exits to male breadwinning, that is, the likelihood that the husband of a jobless couple finds a job. Therefore, the data do not support the hypothesis that the cross-national variation in dual joblessness durations depends on the differences in the labour supply of wives. At least in times of household level labour market difficulties, European countries still appear as male breadwinner societies, where the economic role of the wife seems limited. I will analyse this further in the next chapter. Here I continue with event-history analyses of the exit rates from dual joblessness.

5.4.3.2 Event-history analysis

Can we explain the cross-national variation in the exit rates from dual joblessness? In the following, I again build discrete-time event-history models for a closer look at the determinants of the cross-national variation. Because of the limited role of the variation in the destination state specific outflows, I estimate single-risk models of dual joblessness exit. In the same way as in the event-history analysis of inflows, I use monthly data combined with annual information for each respective year. I also use the same strategy as above to report the country effects and the effects of the covariates in the models. Again, I exclude Luxembourg due to a lack of information on crucial variables.

The covariates include information on social benefit receipt, labour markets indicators, and characteristics of the couples. The social benefit variables include information on the receipt of social assistance and housing benefits, and unemployment compensation. Information on the social benefits received refers to the previous year from the data collection, and the ECHP does not include detailed information on the monthly variation of the receipt of these benefits. In the following analyses, I use data from the subsequent year to indicate – as dummy variables – whether a couple received the benefit in question during the year of dual joblessness. This carries the assumption that couples received the benefits during the months in which the couple was dually jobless. Although this is likely to be the case, this approach is

indeed a second best solution in the absence of better data, and the estimates should be dealt with some caution.[45]

I use the social assistance/housing benefits variable as a proxy for means tested benefits. Social assistance is means tested in all countries. Furthermore, means tested housing benefits constitute an important part of the basic income provision system in many countries (Adema, 2006). However, unemployment compensation can also be means tested. Unfortunately, means-tested unemployment benefits cannot be distinguished from others.

I use a set of measures that characterise the unemployment benefit system. I include a variable on the receipt of any unemployment benefit during the year, separately for husbands and wives. To measure the generosity of unemployment benefits, I calculated average net replacement rates for couples with and without children at 100 and 67 percent of the average production worker's wage, with data from the OECD's Benefits and Wages database (OECD, 2002a).[46] To measure the duration of benefits, I use data from the OECD (OECD, 2006). I measure market institutions using three variables. The OECD's EPL index from the end of the decade (Bassanini and Duvall, 2006) measures the strictness of employment protection.[47] The average of the centralisation and the coordination indexes (and the square of this average) measure the centralisation and coordination of wage setting (OECD, 2004; for Greece based on Kapopoulos and Papadimitriou (2004)). Since collectively bargained wage deals can also include non-unionized workers, I also include a measure on the coverage of collectively bargained wage deals (OECD, 2004; the Greek and Irish estimates are based on estimates by EIRO (2002a)). As measures of the state of the labour market, I use the local unemployment rate and an indicator of labour market restructuring (from Gangl, 2006). Intense restructuring of the labour market, in terms of the shifting of economic activity from one sector to another, can mean adjustment difficulties for the workless as vacancy rates fall, competition for jobs

[45] This does not result in any important loss of cases or sample selection bias. Monthly data were again used instead of annual, because the ECHP lacks good measures on the receipt of various benefits at the time of interview.

[46] The usual way to calculate average replacement rates is over single persons and couples with and without dependent spouses. To better approximate the replacement rates faced by couples, I restricted the calculations to couples. The data were available for 1997 and 1999, and were extrapolated back and fort, the cutting line being 1997.

[47] The average of this measure (Table A5.1 in the appendix) differs somewhat from the OECD figures reported in Table 5.2. This is because I preferred to use Bassanini and Duvall's time-varying measure (Bassanini and Duvall, 2006).

becomes more intense, and the qualification demands change (ibid.). See Table A5.1 in the appendix to the chapter for more details on the institutional variables.

I also control for observed characteristics of dually jobless couples as a simple control of compositional differences between the countries. The control variables include the age of the husband; education, health status (both coded as in the inflow analysis), and a dummy variable for prolonged joblessness (more than one year), each separately for both spouses; housing tenure status (homeowner or not); and the number of children and presence of a small child (less than three years).[48] See Table 5.3 for descriptive data.

Table 5.9 displays the results. Model building proceeds in the same way as in the inflow analysis of Table 5.7. I consider the role of means testing first due to the interest it has received in the literature (Model 2). Couples, who received social or housing assistance during the year of dual joblessness had an approximately 40 % lower chance of moving to employment each month, although the estimate is only weakly significant. This estimated difference becomes bigger and more significant in the subsequent models. This suggests that selection by observed weaker characteristics does not explain this difference. However, this variable alone does not explain much of the country differences. As expected, they explain part of the lower exit rates in Ireland and the UK, but also part of the higher exit rates in Spain. In Finland, France, and Denmark the exit rate would be even higher were it not for the relatively common receipt of social assistance and housing benefits (over 50 % of the couple-months, also Ireland and the UK). In Belgium and Portugal, few jobless couples receive these benefits (less than 10 % of the couple months). In these countries, the estimated the exit rates are even lower when social assistance is controlled.

Model 3 enters unemployment benefit receipt, the average replacement rate, unemployment benefit duration, labour market regulation, the wage bargaining variables, structural change, and the regional unemployment rate. Couples, in which the husband or the wife received unemployment compensation had a higher probability of exiting dual joblessness. This counterintuitive finding reflects positive selection into unemployment benefit receipt. Most husbands receive benefits (over half of the couple-months except in Southern Europe), while a

[48] Again, I do not control for selection bias. I tested the Heckman-model using the education difference of the spouses as the exclusion restriction (should increase male breadwinning, who have higher risks of dual joblessness) without changes to the results.

minority of wives receive these benefits (except in the Nordic countries). Model 4 supports the selection story. In this model, the estimated effect for husband's unemployment receipt disappears, even though the estimate of the benefits of the wife remains positive and significant. Unobserved factors are the likely explanation. The average replacement rate does not seem to affect exits from dual joblessness. The estimate for the duration of unemployment benefits is negative and significant. An additional month of unemployment benefits increases the duration of dual joblessness by 1.7 percent,[49] which at the average exit rate (6.2 percent) translates to eight more days of dual joblessness. These results remain in Model 4.

The estimated effect of EPL is not significant in Model 3. However, it becomes more significant and slightly bigger in the fourth model. This can reflect the sample of countries included: the effect becomes non-significant and weaker when Ireland or the UK is excluded. The result can also reflect behavioural responses by dually jobless couples. Jobless couples may not want to take up temporary or insecure employment, because termination of the contract may lead to lower (means tested) benefits than a continued spell of dual joblessness. In analyses not shown here, I found – using a measure on the strictness of regulating temporary work (Bassanini and Duvall, 2006) – that the interaction term between regulation of temporary contracts and the receipt of social or housing benefits was positive (0.193) and significant at the 0.1 percent level. The result persisted (but became less significant) even when I excluded Ireland and the United Kingdom.

The centralisation/coordination measure shows an inverse hump-shaped pattern, as what one would expect if wage setting at the industry level produced less employment. The estimate is not significant in Model 3, and is significant only at the 10 percent level in Model 4. Coverage of collectively negotiated wage deals is positively related to exits from dual joblessness.[50] A possible explanation is that an extension of the coverage of collectively bargained wage deals raises lower wages, which makes employment more attractive to dually jobless couples. Finally, structural change in the labour market decreases exits from dual joblessness and increases its durations, as expected. The regional unemployment rate measure has, surprisingly, a positive sign, although it is not significant. In the fourth model, its sign is negative but not significant. This suggests that this measure might fail to measure the relevant features of the state of the regional labour market very well.

[49] $e^{-0.017}-1$

[50] The estimate is similar, although not significant, when Ireland and the United Kingdom were excluded.

Table 5.9. Event-history analysis of exits from dual joblessness.

	Model 1	Model 2	Model 3	Model 4
		Average residuals (x 100)		
Finland	5.871***	6.424***	1.133	1.090
Spain	2.836***	2.351***	0.440*	0.015
Austria	2.808***	2.386***	0.138	0.138
Greece	2.196***	1.967***	1.399***	0.105
France	0.660*	1.610***	-0.992**	-0.242
Denmark	1.231†	1.776*	3.239***	2.662***
Germany	-0.950***	-0.892**	-1.726***	-0.386
Italy	-1.272***	-1.261***	-0.178	0.196
Portugal	-1.493***	-1.937***	0.410	0.379
United Kingdom	-1.815***	-1.091***	0.182	-0.049
Ireland	-2.479***	-1.787***	-0.468*	-0.535*
Belgium	-3.198***	-3.804***	-0.343	-0.490*
		Logit coefficients		
Social or housing assistance (d)		-0.466†	-0.579**	-0.662***
Unemployment benefits – husband (d)			0.456***	0.093
Unemployment benefits – wife (d)			0.599***	0.373***
Average replacement rate			-0.272	0.006
Duration of ue. benefits (months)			-0.017***	-0.014**
Employment protection			0.079	0.114*
Centralisation/Coordination			-0.652	-0.560†
Centralisation/Coordination squared			0.100	0.087†
Collective bargaining coverage			0.014*	0.012***
Structural change			-0.068*	-0.060***
Regional unemployment rate			0.515	-0.393
Husband's age (ref: 25-34 years)				
35-44 years				-0.249***
45-55 years				-0.889***
Husband's education(ref: High)				
Intermediate				-0.050
Low				-0.094
Wife's education (ref: High)				
Intermediate				-0.077
Low				-0.212**
Husband jobless > 1 year (d)				-0.402***
Wife jobless > 1 year (d)				-0.453***
Bad health – husband (d)				-0.778***
Bad health – wife (d)				-0.124*
Children				0.033
Child aged 0-3 years (d)				-0.125**
Homeowner (d)				-0.009
Constant	-2.722**	-2.163***	-2.418***	-0.857***
Log-likelihood	-18487.173	-18261.384	-17395.95	-16120.126
Pseudo R	0	0.004	0.031	0.069
N couple-months	79847	79847	76051	73251
N events	4,924	4,924	4,901	4,740

† p<0.10; * p<0.05; ** p<0.01; *** p<0.001

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband 25-55 years, no students.

The variables included in Model 3 do a good job in explaining some of the national differences. The Finnish, Italian, Portuguese, British, and Belgian estimates decrease and lose their significance. The Greek, Spanish, and Irish estimates also become smaller and less significant. The French, Danish, and German estimates are anomalies in this respect, since they either become stronger, or change sign (France).

In the fourth and final model, I include the couple-level controls. The results are more or less as one would expect. Younger and older couples[51] and those where the partners have been out of work for a long time, have health problems, and a small child have low exit rates. Education does not seem to matter, with the exception of low education of the wife. Homeownership does not matter, either.

In Model 4, the estimates for France, Greece, and Germany become non-significant, whereas the Belgian estimate become somewhat larger and significant at the 5 percent level. Even though the Danish estimate becomes smaller, the model does not seem to fit the Danish data very well. Nevertheless, the models are more successful in explaining the cross-national variation in dual joblessness than those used to explain in the variation in inflows to dual joblessness from male breadwinning (Table 5.7).

The overall conclusion of this analysis is that the European variation in dual joblessness durations is linked to the wider problem of long-term unemployment in Europe. Although the estimated effect of means tested benefits was important, they do not remarkably contribute to the understanding of the overall European variation.

5.5 Conclusions

In this chapter, I analysed the dynamic roots of the variation in European rates of dual joblessness, by comparing thirteen countries with data from the European Community Household Panel. In the period from 1994 to 2000, the average dual joblessness rates ranged from approximately two percent (Denmark) to a high of over ten percent (Ireland).

[51] I also included receipt of pensions (not shown). As expected, the effect was negative, but apart from decreasing the effect of old age, it did not contribute to the model otherwise. The same holds for receipt of sickness benefits.

Both the flows into and out of dual joblessness contributed to the cross-national variation in dual joblessness rates. Of these flows, the national variation in inflows explains more of the national differences than the variation in outflows. I decomposed the variation in inflows to variation in breadwinner models and variation in inflows from different joint employment statuses. Dually employed couples have a low risk of dual joblessness, while single breadwinner couples were more vulnerable, in particular if the wife was the breadwinner. Consequently, the European variation in breadwinner models – and especially in the spread of the male breadwinner model – was more important in explaining the variation in inflow rates than the European variation in employment security. On this basis, we can conclude that female employment is an especially important factor affecting dual joblessness: countries with higher female employment rates and less male breadwinner families have lower rates of dual joblessness. This corresponds to the preliminary results in Chapter 4, Section 4.

Despite this general conclusion, job security measures – such as employment protection legislation and permanent contracts – naturally protect couples against dual joblessness.[52] Employment protection measures have been stricter in European countries with a more dominant male breadwinner model: in other words, promotion of the dual-earner family model and employment protection can have complementary effects in securing families against labour market risks. For example, in Finland employment security was lower during the period covered. The dominance of the dual-earner family model kept dual joblessness incidence at lower levels than they would have been otherwise. At the same time, Luxembourg remained a male breadwinner country *par excellence*. However, Luxembourgish workers enjoyed a high level of job security, which kept dual joblessness incidence rates low. High job insecurity and a dominant male breadwinner model is the worst combination. This explains why the incidence risk of dual joblessness was high in Spain.

Outflow rates from dual joblessness also varied across the thirteen European countries. Even though this variation was less important in explaining differences in dual joblessness rates, prolonged spells of dual joblessness are a more pressing problem than short-term spells. The first conclusion of this analysis is that differences in female employment do not explain European variation in dual joblessness durations. Transitions from dual joblessness to female breadwinning were marginal. Wives do not seem to become added workers. Therefore, female

[52] Job and worker characteristics also explain dual joblessness incidence among male breadwinner families.

employment decreases the risk of dual joblessness, but not its durations. Whether the latter finding can be explained by spouse differences in labour market resources, or a possible cultural effect that makes couples avoid female breadwinning will be analysed in the next chapter.

The second conclusion is that "long-term dual joblessness" is a specific aspect of the wider long-term unemployment problem in Europe. Means tested benefits, which have received a lot of interest in the literature, seem important, but they contribute less to explaining the overall variation in European dual joblessness durations than institutional and couple-level variables, which can also be used to explain long-term unemployment. The duration of unemployment benefits appeared important, as countries with longer-lasting benefits had longer spells of dual joblessness. Extended coverage of collectively bargained wage deals increased exits from dual joblessness and strong structural changes in the economy decreased them. The former may reflect the increases in the lower wages it entails: Gregg and Wadsworth (2000: 518) suggested that dually jobless couples may suffer particularly from low (entry) wages, and the OECD (2004) reported that wage deal coverage associated positively with the relative employment of less-skilled workers. The level and coordination of wage setting can also be important, in line with the "hump-shaped" curve hypothesis, although the evidence was not very strong. I also found surprising estimates for unemployment benefit receipt and employment protection. While selection bias (or problems in the empirical measure, in the benefits variable case) is a possible explanation, I also speculated on the positive behavioural impacts of employment regulation for dually jobless couples: they may prefer well-protected employment, especially when confronted with means tested benefits.

Appendix to Chapter 5

Table A5.1. Description of country level variables, means

	Regional unemp. rate	EPL index	Average replacement rate	Av. duration of unemp. benefits, months	Centralization/ Coordination index	Collectively bargained wage deal coverage	Struc-tural change
Denmark	6.16	1.62	0.82	48	3	80	6.6
Finland	12.3	2.10	0.82	23	5	90	3.3
Germany	9.28	2.81	0.69	12	3.5	68	4.3
Austria	3.97	2.20	0.70	9	3.5	95	5.1
France	1.09	3.00	0.77	23	2	90	2.2
Belgium	8.67	2.70	0.63	60 (no limit)	3.75	90	10.5
Portugal	5.27	3.76	0.82	24	4	80	9
Spain	22.28	3.02	0.74	21	3	80	6.1
Italy	19.14	3.22	0.47	6	3	80	10.5
Greece	9.84	3.50	0.47	12	3	80	5.4
Ireland	8.96	0.90	0.61	15	4	85	9.9
UK	6.07	0.61	0.67	6	1	30	3.9

Notes and sources: (1) Regional unemployment rate, European Community Household Panel, own calculations. (2) Employment protection index, corresponds to the scale by OECD (2004), extracted from Bassanini and Duval (2006), time-varying, except for Greece and Austria, where the data correspond to the late 1990s, from OECD (2004). (3) Average replacement rate is averaged over two family types, a childless couple and couple with two children, and two earnings levels, 100 % and 67 % of average production worker wage, from OECD's Benefits and Wages Database (2002a). The years 1994 to 1997 correspond to the levels at 1997, from 1998 to 2000 correspond to the levels at 1999. (4) Duration of unemployment benefits OECD (2006). There are no limits for unemployment benefit duration in Belgium. However, I top-coded them to 60 months. (5) The centralization/coordination index corresponds to the index by the OECD (2004), expect for Greece it is estimated on the basis of information from Kapopoulos and Papadimitriou (2004). (6) The data for the coverage of collectively bargained wage agreements come from the OECD (2004), except for Greece and Ireland, from EIRO (2002a). (7) The structural change indicator measures the sectoral discrepancy in job creation and destruction, and comes from Gangl (2006).

6 IN SEARCH OF THE MACHO-EFFECT: GENDER AND THE EMPLOYMENT DYNAMICS OF COUPLES

6.1 Introduction

The previous chapter showed that most of the dynamics of dual joblessness are in fact employment dynamics of the husband. In all thirteen countries, most spells of dual joblessness are a consequence of the male breadwinner losing his job, and most spells of dual joblessness end with the husband entering employment. The explanation for the former is the higher exposure to dual joblessness in male breadwinner couples compared to dual earner couples and the commonality of male breadwinning compared to female breadwinning.

But why do wives in jobless couples supply little labour? One explanation is that women overall have lower labour supplies than men, and dual joblessness does not make a difference. Women are more constrained by, for example, family-related factors, which decrease their labour supplies. Furthermore, in many European countries women find it harder to enter employment than men (Azmat et al., 2006). However, the fact that the transition rates from dual joblessness to female breadwinning are very much lower than to male breadwinning – even in high female employment countries such as Denmark – suggests that women with jobless husbands may supply less labour than those with employed husbands.

Table 6.1. Joint employment statuses in twelve European countries (%)

	Both work	Husband only works (male breadwinning)	Wife only works (female breadwinning)	Both jobless
Austria	64.92	29.19	3.15	2.74
Belgium	69.58	23.36	2.41	4.65
Denmark	82.55	12.46	2.95	2.04
Finland	77.79	15.52	4.19	2.50
France	59.13	32.75	4.11	4.01
Germany	66.32	25.98	4.37	3.33
Greece	45.15	48.69	2.39	3.77
Ireland	46.82	40.98	3.37	8.83
Italy	44.06	46.23	3.68	6.03
Portugal	62.50	30.74	3.52	3.24
Spain	35.43	52.94	4.35	7.28
United Kingdom	73.08	17.70	4.58	4.63

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25 to 55 years, no students.

This economically counterintuitive finding has been a topic of considerable interest in previous research, and several explanations have been put forward (see Chapter 3, Section 3). One line of research has suggested that part of the explanation lies in cultural conceptions and expectations of economic provision between husbands and wives, and that wives are reluctant to assume the status of the single breadwinner. This cultural explanation – sometimes called the "macho-effect" – emerged from the qualitative literature on family responses to male unemployment. It has also been pointed out as a possible explanation in several quantitative studies (e.g., Garcia, 1991; Davies et al., 1994; Doris, 1998). Most studies with quantitative data have, however, focused on the effects of economic variables, such as wages, social benefits, and education. The macho-effect hypothesis has been left to qualitative researchers, and has never been the focus in quantitative research.[53]

The objective of this chapter is to narrow this gap by assessing the macho-effect hypothesis with quantitative data on the joint employment dynamics of European couples. This assessment enables, I believe, shedding light on gendered patterns of family provision more broadly. Despite the increases in female employment and the share of dually employed couples, the share of couples where the wife is the sole earner is very small everywhere in Europe (Table 6.1),[54] and female breadwinning seems to be associated with stigma in the popular imagination (cf. Dunleavey, 2007). The case of dually jobless couples, and their joint employment decisions, provides an interesting test case for assessing the force of cultural codes. Analysing these, and other, employment dynamics thus can provide interesting insights to the gendered construction of family provision patterns.

In the next section of the chapter, I introduce the macho-effect hypothesis and its theoretical context, and discuss alternative explanations. I then present the analytical approach used to study joint employment transitions, after which I describe the statistical tools, and the data. The preceding section presents the results, and the last section provides a conclusion.

[53] However, as mentioned in the Chapter 3, Doris (1998) speculated that some of her results might reflect the macho-hypothesis.

[54] The share of dual earner couples in this table is bigger, and the share of male breadwinner families smaller, than in Table 4.5. This is due to the differences in the variables: the ILO labour market status variable includes as employed also those who do part-time work, who sometimes reported other activities than paid work as their primary activity in the retrospective monthly questions (this was discussed in more detail in Chapter 4.2.3). I discuss possible implications of this in the concluding section of the chapter.

6.2 The macho-effect, alternative explanations, and evidence

6.2.1 The macho-effect

Several ethnographic studies on the labour supply of the wives of unemployed men have found that wives may be reluctant to assume the breadwinner role of the household. Several reasons for this reluctance were mentioned (Barrère-Maurisson et al., 1985; McKee and Bell, 1985; Morris, 1990; also Cooke, 1987; Irwin and Morris, 1993). While economic concerns – especially when faced with means-tested social benefits – often played a role, many women mentioned non-economic reasons, such as wishes of not harming the self-esteem of their husband, husbands' reluctance of giving the breadwinner role to their wives, and the wives' lack of trust in their husbands' homemaking skills. These statements reflected the couples' unwillingness to challenge the prevalent order in which the husband is an – and sometimes the – economic provider for the family. The belief in this order was strong. For example, in their study of British couples, McKee and Bell (1985: 394) reported how "wives and husbands frequently became emotional at the prospect of wives becoming the chief breadwinner". This reluctancy in challenging the gendered presumptions of economic provision as a solution for dual joblessness has at times been called the "macho-effect" (cf. Irwin and Morris, 1993; Halvorsen, 1999).

The macho-effect is an example of the ways in which partners "do gender" in their daily activities (West and Zimmerman, 1987). The doing gender –theory was developed and has been widely used to explain the persistence of gendered behavioural patterns across various spheres of life (ibid.; Deutsch, 2007; Wicken and Emmison, 2007). The theory distances itself from explanations that stress the role of biological differences and socialization in producing gender differences and from views of gender as a stable "role" of learned and enacted sex-linked expectations (Fenstermaker, 2002: 110). Instead, the core claim of the approach is that gender identities and gendered behavioural patterns are produced and reproduced in daily social interactions (e.g., West and Zimmerman, 1987; cf. also Goffman, 1977; Blossfeld and Drobnič, 2001; Fenstermaker and West, 2002).[55] In these interactions, individuals display their gender, taking into account the prevailing expectations of the kinds of behaviour deemed proper for men and women in each situation; in other words, "gender is a socially scripted dramatization of the culture's *idealization* of feminine and masculine natures" (West and Zimmerman, 1987: 130, original italics). Because of the mental and emotional importance of

[55] Adopting this approach need not mean that one denies the role of biological and socialization differences. Doing gender can simply add to or enforce other sources of gender difference.

these displays, doing gender "is the mechanism by which both the material and symbolic products of the household are realized" (Berk, 1985: 201; cited in West and Zimmerman, 1985: 144). In other words, doing gender "enters the utility function of the couple" (cf. Fenstermaker, 2002). Acknowledging this can make seemingly irrational behaviour more intelligible.

The allocation of tasks within a household is a classic example of doing gender (ibid., Brines, 1994). While housework and caring are fields where wives can display their femininity, paid work and economic provision give husbands the chance to show their masculine worth (West and Zimmerman, 1987: 144; Lamont, 2000; Fenstermaker, 2002). These salient and largely taken-for-granted expectations can bias evaluations of competence in different tasks so that men are evaluated (both by men and women, and even against "objective facts") as more competent than women in instrumental tasks (such as paid work) as opposed to expressive or caring behaviour (Ridgeway, 1997; Ridgeway and Correll, 2004). These processes help to sustain a gendered division of work.

Summing up, the basic claim of the macho-effect hypothesis is that couples avoid situations where the wife is the sole earner. Female breadwinning can be rare for other reasons as well. These will be discussed next.

6.2.2 Alternative explanations

Women earn, on average, less than men in every Western country (e.g., Blau and Kahn, 2003). On average, wives also command lower wages than their husbands (e.g., Sørensen, 2001). The Beckerian theory of the family division of labour states that couples divide the time between paid work and housework according to the relative efficiencies of the spouses in each task (Becker, 1981). Therefore, one would expect that if husbands command higher wages than their wives, it is more likely that the husband is the breadwinner. The likelihood of a similar division of labour increases even when the spouses have the same human capital and can command the same wages if the wife's time at home is more valuable than that of the husband. Although the increases in dually employed couples suggests that Becker's theory is outdated, the theory may still explain why female breadwinning has not taken root anywhere in Europe. Wage differences between husbands and wives have also helped explain why wives with jobless husbands have low employment rates (Maloney, 1991).

The effects of wage inequalities within families can be strengthened by the incentive structures created by social benefit systems. For example, Cullen and Gruber (2000) found strong "crowdout-effects" of unemployment compensation in the sense that unemployment compensation received by the husband decreased the labour supply of his wife. With sufficient unemployment compensation received by the husband, the wife may remain non-employed, especially if the husband's unemployment spell is likely to be transitory (Doris, 1998). Finding a job may take time and resources, and wives may not enter the labour market just to withdraw from it once the husband has found a job.

Wives of jobless husbands may not become breadwinners also due to other economic considerations. The wife's disincentives for taking up paid work can be enforced by means testing of social benefits. If benefits are means tested, an increase in household earnings can cut received benefits so that total household incomes may not rise. In such a situation, employment of the (higher-wage) husband may be more rational from the couple's point of view, even if it means a longer waiting period. In all European countries, some (most often social and housing assistance) benefits are means tested. In Ireland and in the United Kingdom, most unemployment compensation benefits are also means-tested. In others, such as Finland and Germany, means tested unemployment benefits play a smaller role. The eligibility criteria for enjoying non-means tested benefits depends usually on employment experience and previous contributions to the unemployment scheme (MISSOC, various years).

The presence of (small) children in the household increases the likelihood of a male breadwinner solution. Women are expected to (and do) care for children more than men, and consequently, the value of women's home time is increased by the presence of children (although affordable childcare reduces women's childcare obligations). Health status of the spouses can also affect the joint employment status of the couple. Studies on the joint retirement patterns of couples have found that health problems of the husband can affect the employment status of the wife, but usually not vice versa (see, Jiménez-Martin et al., 1999 for Spain; Blau and Riphahn (1999) for Germany; for somewhat different effects in the United States, see Blau (1998)).

Finally, gender differences in unemployment – women's chances of finding a job if they want one – may contribute to the rarity of female breadwinning. Azmat and colleagues (2006)

reported sizable gender gaps in unemployment rates in many European countries. In high-gap countries, women had both a higher incidence rate of unemployment and a lower exit rate from unemployment to employment.[56]

6.2.3 Direct and indirect evidence: for and against

As mentioned above, most evidence for the macho-effect come from ethnographic work on family strategies and labour market behaviour at times of male unemployment. Quantitative studies have not explicitly tested the hypothesis. However, Doris (1998) found using a Mover-Stayer model that the effects of husband's employment were stronger for wives, who were jobless during the first measurement than for those, who were at work. She suggested that this may indicate that the wives of unemployed men are not willing to become breadwinners. Preliminary evidence for the macho-effect could also be found from Blau (1998) for the United States, and Blau and Riphahn (1999) for Germany, who reported descriptive data that showed that wives (close to retirement-age) are more likely to move to non-employment, and less likely to move to employment if their husband is non-employed. This association was stronger than for husbands. However, the authors did not pay more attention to these results.

It is easy to argue that the macho-effect hypothesis is outdated, given the changes in women's position in the family and in the labour market. However, it is important to stress that the macho-effect hypothesis only predicts that couples avoid female breadwinner solutions. Therefore, the increases in female employment rates and the shares of dual earner couples are not empirical evidence against the hypothesis. Alternatively, one could find contrasting evidence from data on attitudes to female breadwinning. For example, data from the 1994 round of the International Social Survey Programme show that a minority of Europeans thought that female breadwinning was "not good" (ISSP, 1994).[57] However, it is important to acknowledge that the predictive value of such general attitudes on behaviour is low (e.g., Hakim, 2004). Therefore, husbands and wives may be positive to female breadwinning in general, but when confronted with the real-life prospect of female breadwinning, gendered evaluations and behavioural codes may be enough to reproduce old patterns of economic

[56] Another hypothesis could point to the gendered differences in the role of social resources ("social capital") provided by employed and nonemployed spouses (De Graaf and Ultee, 2000). If employed husbands are more effective in providing valuable links to the labour market for their jobless spouses than employed wives, macho-effect-like dynamics may be observed.

[57] The specific wording was "It is not good if the man stays at home and cares for the children and the woman goes out to work". Of the countries then covered, the share of respondents agreeing or strongly agreeing with this claim ranged from 11 percent (The Netherlands) to 40 percent (Spain).

provision (cf. Ridgeway, 1997). Whether this is so, should be judged with data on actual behaviour.[58]

We can find some indirect evidence in support of our expectations. First, it is still expected that men take part in the economic provision of their families (e.g., Lamont, 2000; Legerski, 2004). Support can also be found from related literatures. For example, Clark (2003) reported how own unemployment had a higher adverse effect on the psychological well-being of British men than of women. Furthermore, he reported how unemployment of the partner had a negative impact on the well-being of women but not of men. Interestingly enough, the blow of unemployment for men was decreased by unemployment of the partner, but he found no such effect for women. Gender differences in housework provide another case in point. Even in Nordic countries, women take most of the childcare leaves, work more often part-time, and do more housework than men (OECD, 2006; Halleröd, 2005). Moreover, some results suggest that couples where the wife earns more than the husband seem to resort back to a more traditional division of housework as a way of restoring the gendered order (Brines, 1994; Bittman et al., 2003; Halleröd, 2005). As a consequence, Cooke (2006) documented how traditional gender roles in housework enhanced marital stability in Western Germany, Jalovaara (2003) showed how female breadwinning was detrimental to marital stability in Finland, and Kalmijn and colleagues showed how a move to female economic dominance destabilized marriages and cohabitations in the Netherlands (Kalmijn et al., 2007). Finally, as a historical curiosity, many researchers expected in the 1970s and 1980s that wives would start taking the breadwinner role as a reaction to their husbands' unemployment, unlike in the 1930s (e.g., Pahl, 1980; see also Morris, 1990). However, the results from ethnographic studies failed to confirm these predictions (Morris, 1990: 189).

6.3 Modelling partners' joint employment transitions

I follow an approach by David Blau (1998; also Blau, 1997; Blau and Riphahn, 1999) for modelling joint labour market transitions of couples to formulate empirical predictions of the macho-effect hypothesis. Husbands and wives are considered either employed or jobless at each point in time. This results in a four-state joint choice variable, where

1 = Both partners are employed;

[58] It is interesting that this belief is shared by ethnomethodologists (on evaluating "doing gender", see Wickes and Emmison, 2007) and economists alike.

2 = Husband is employed, wife is jobless;

3 = Wife is employed, husband is jobless;

4 = Both partners are jobless.

We assume that a couple chooses one of these states, depending on the utility attached to each. These decisions can be made jointly, interdependently, or independently, although at least some degree of interdependence is assumed. Thus the model approximates common models of family labour supply (Blau and Riphahn, 1999: 233; see also Chapter 3, Section 3.1).

The couple derives utility from consumption, C, – the level of which depends on wages and unearned income – and leisure of the husband, L_h and of the wife, L_w. Additionally, we can expect that the couple's utility is shaped by conformity to cultural norms. In our case, we expect that the utility derived from a joint employment status depends on the social acceptability of the status is question, M (as for the "macho-effect"). Then a simple utility function for the couple is $U(C, L_h, L_w, M)$, where $M < 0$ in the case of a female breadwinner solution, and zero otherwise. Obviously, this framework could be extended to cover the social acceptability of other joint states as well. For example, in a strong male breadwinner regime, M can be positive for male breadwinner families. To keep the framework simple, these situations are not considered here.

In a dynamic setting, the utility gained from occupying state k at period t, given occupancy of state j at period $t - 1$ is $U_{kj}(t)$. Then the probability that state k is optimal at t given that j was occupied at $t - 1$ is the probability of the transition from j to k

$$\lambda_{jk}(t) = \Pr(U_{kj}(t) > U_{mj}(t) \forall m \neq k \mid d_j(t-1) = 1). \qquad (6.1)$$

The macho-effect hypothesis can be evaluated with a simple set of inequations, keeping other variables constant. Due to the starting point of the paper (exits from dual joblessness) and the different dynamics of employment exit, here I do not consider transitions into dual joblessness. I start from the following inequation:

$$\lambda_{41}, \lambda_{42}, \lambda_{44} > \lambda_{43} \qquad (6.2).$$

This inequation states that dually jobless couples prefer any other joint status than female breadwinning. The inequation does not include a hierarchy between the left-hand side transitions. However, it does state that dually jobless couples may prefer dual joblessness to female breadwinning: this follows from the literature on the low employment rates of the wives of jobless men. When the husbands and wives have the same characteristics, and as wages increase, dual joblessness becomes decreasingly, and dual employment becomes an increasingly attractive option. Therefore, a crucial comparison is between transitions to male breadwinning and to female breadwinning:

$$\lambda_{42} > \lambda_{43} \qquad (6.3).$$

If couples avoid female breadwinning, female breadwinning solutions should be more unstable than other joint employment statuses. In particular, we would expect that female breadwinner couples choose dual employment more likely than male breadwinner couples:

$$\lambda_{31} > \lambda_{21} \qquad (6.4),$$

and more generally, we would expect that female breadwinner couples remain in the status less likely than male breadwinner couples:

$$\lambda_{33} < \lambda_{22} \qquad (6.5).$$

These inequations will be used to evaluate the macho-effect hypothesis.[59]

This approach differs from those used in most previous studies, as discussed in the third section of Chapter 3. These studies have generally concentrated on the labour supply of wives (or also of husbands, as in De Graaf and Ultee, 1991; 2000) and used both static and dynamic data on individuals (e.g., De Graaf and Ultee, 1991; Garcia, 1991; Maloney, 1991; Davies et al., 1994; Dex et al., 1995; Giannelli and Micklewright, 1995; Doris, 1998; Cullen and Gruber, 2000; De Graaf and Ultee, 2000; Bingley and Walker, 2001; McGinnity, 2002;

[59] Additionally, we can expect that $\lambda_{23} < \lambda_{32}$. In reality, these transitions are very rare. However, they will be discussed in the results section in the case of some simulated transition rates, when relevant.

Stephens, 2003). In most cases, the employment status of the spouse has been used as a strictly exogenous variable. To the extent that partners' labour supplies involve joint or interdependent decision making, the estimates of the employment status of the spouse are biased. Furthermore, since these studies used individual level data, they did not differentiate between the joint statuses the couple moved to. Therefore, the "individual approach" to studying couples' labour market decisions is not optimal for our purposes.[60]

6.4 Method and data

6.4.1 Method

I evaluate the hypotheses in two steps:

1. I estimate multivariate models for the joint transitions of couples
2. Based on the multivariate models, I simulate transition rates for couples in which
    a. The couple has the characteristics of an "average" couple
    b. The spouses have similar characteristics
    c. The wife has better labour market characteristics than the husband

I simulate the transitions both across the EU12 and separately for Germany, Finland, Spain, and the United Kingdom. The countries represent the four country clusters (Continental, Nordic, Southern, and Anglo-Saxon, respectively) commonly identified in Western Europe (e.g., Esping-Andersen, 1999). The details of these simulations are discussed in more detail in Section 5.3 of the chapter.

In the first step, I estimate the following model:

$$\mathrm{P}(y_{it} = k \mid k_{t-1} = j, z_{ikt}, x_{it}) = \exp(z_{ikt}\gamma + x_{it}\delta_k) \Big/ \left[\sum_{k=0}^{K} \exp(z_{ikt}\gamma + x_{it}\delta_k)\right], \quad k, j=0,\ldots,K, \qquad (6.6)$$

which gives the probability that couple i is in joint labour market status k at t, given occupancy of joint status j at $t-1$, the attributes z_{ikt} of the joint status k faced by the couple at t, and the characteristics x_{it} of the couple at t. The model is a conditional logit model, which

[60] A similar "joint" approach as described here was used by Lundberg (1985) to study the labour supply of the wives of unemployed men, and Blau (1997; 1998), Blau and Riphahn (1999), and Jiménez-Martin and associates (1999) to study joint retirement behaviour.

is a suitable choice, when the data have alternative specific (alongside purely individual/couple specific) covariates (Wooldridge, 2002: 500-504). In this case, the social benefits the couple can expect to receive in each joint status vary across statuses (see below for details). For example, a couple may expect to receive higher social benefits if dually jobless than if dually employed. This possibility is incorporated into the model.[61] Otherwise it is similar to the more familiar multinominal logit model. Technically, the model is similar to a competing-risks event-history model (cf. Yamaguchi, 1991; Blossfeld and Rohwer, 2002).

6.4.2 Data

6.4.2.1 Sample

The data are a sample from the annual files of the ECHP. The annual files include information on wages and other incomes, which were not measured at the monthly level. In practice, descriptive results from annual data were very similar to those from monthly data.

The sample includes couples from twelve ECHP countries, where the husband is 25 to 55 years old and neither spouse is enrolled in education. The Swedish data are not panel data, the Dutch data do not have the monthly employment measures used to estimate the expected benefits, and the Luxembourgish data miss many observations from crucial variables. These countries were, therefore, excluded from the sample. The other twelve countries were pooled into a single file, as a way to increase the number of transitions, which often remained minor in single countries. Country fixed effects are included to control for country-level factors influencing the transitions. The effects of the covariates can, however, vary across the countries. Due to sample size restrictions, I could not include a full set of interactions. However, I tested for interactions between countries and the two child variables included in the model (see below). Due to the variation in European child care provision systems and the employment of mothers (Gornick et al., 1997; 1998), these interactions are theoretically the most plausible. The choice of the interactions included in the final models was made on the basis of likelihood-ratio tests.

[61] A limitation of the conditional logit model is that relies on the independence from irrelevant alternatives (IIA) assumption (Wooldridge, 2002: 501-502) that states that adding another alternative (say, other spouse employed only part-time) or changing the characteristics of the existing alternatives would not affect the relative odds between the other alternatives. An alternative method, which relaxes this assumption is the alternative specific probit model. Unfortunately, however, it is very burdensome to estimate and the models failed to converge with the software used (STATA 9.2).

Table 6.2. Descriptive statistics of the independent variables

	Mean	S.d.
Logged hourly net wage – husband ($ PPP)	1.90	0.39
Logged hourly net wage – wife ($ PPP)	1.60	0.38
Expected benefit if dually jobless ($ PPP)	156.31	146.43
Expected benefit if wife works ($ PPP)	138.70	80.70
Expected benefit if husband works ($ PPP)	73.61	73.57
Expected benefit if both work ($ PPP)	59.49	82.44
Male unemployment rate	8.55	2.75
Female unemployment rate	13.51	5.97
Number of children	1.25	1.25
	%	
Husband low education	44.11	
Husband middle education	34.13	
Husband high education	21.76	
Wife low education	46.67	
Wife middle education	33.33	
Wife high education	20.00	
Husband bad health	5.06	
Wife bad health	5.60	
Child less than 3 years	14.49	
Married	92.31	
Austria	4.70	
Belgium	6.03	
Denmark	3.61	
Finland	3.62	
France	12.75	
Germany	10.11	
Greece	9.51	
Ireland	5.85	
Italy	15.00	
Portugal	9.53	
Spain	12.48	
United Kingdom	6.80	
N (couple-years, total)	147,029	

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.

6.4.2.2 Dependent variable

The dependent variable is the joint labour market status of the couple at time *t*, conditional on its joint status at *t* – 1. The variable is a combination of the employed – not employed dummies of the spouses, constructed on the basis of the ILO measure of labour market status.

6.4.2.3 Independent variables

The independent variables are the logged hourly wages of the partners, the expected benefit level of a couple in each joint status, age of husband, education of the spouses, health status of the spouses, number of children, presence of under three-year old children, marital status, the regional male unemployment rate, the regional female unemployment rate, and country dummies. Table 6.2 displays descriptive information on these variables.[62]

Education is measured with three dummy variables: recognized third-level education (ISCED 5-7), second stage of secondary education (ISCED 3), and less than second stage of secondary education (ISCED 0-2), which is the reference category. Higher educated people not only have more human capital, but may also hold different values and preferences regarding family provision (Blossfeld and Drobnič, 2001). Health status is measured with a dummy, which is unity if the respondent reports having "bad" or "very bad" health. Marital status (married – not married) is also measured as a dummy. Married couples are expected to exhibit a more traditional division of labour, even in countries with high rates of cohabitation (cf. Ginther et al., 2006). Similar reasoning justifies the inclusion of the number of children (18 years or less) and the age of the youngest child (measured as a dummy: less than three years or not). The model also includes the statistically significant interactions between the child variables and the country dummies (see above). Age of husband is measured through three dummies (25-34 years, 35-44 years (reference), and 45-55 years). Due to the lack of proper labour market experience variables, this variable also serves as a proxy for potential experience. Regional male and female unemployment rates are estimated from the ECHP files and proxy gendered local labour market conditions.

Hourly net wages are estimated by dividing the current net monthly earnings by 4.5 times the number of hours worked per week. Wages are observed only for employed partners. Following standard econometric practice, I impute the missing wages for nonworking individuals to estimate the wage offers these partners would get in the labour market. To do this, I estimated OLS wage equations separately for men and women in each country, using the full sample of married and cohabiting individuals in the Personal File of the ECHP. The regressors of the male wage equation are age (25-34, 35-44 (reference), and 45-55 years), education (primary (reference), secondary, tertiary), year dummies, and a dummy for "entry

[62] Other variables of interest, such as immigration status, could not be used due to a high number of missing cases.

wage". The "entry wage" dummy indicates whether the respondent has started the present job during the same year and has experienced unemployment before the present job. This measure is included in the estimation to take into account the possibility that wage offers to the unemployed may differ from wages offered to those in employment (Gregg and Wadsworth, 2000). The female wage equation is otherwise similar but includes the number of children as an extra regressor. I also estimated wages for self-employed individuals, whose wages are not observed. The model used is otherwise the same but does not include the entry wage dummy. For the analysis, the wages are logged and the highest and lowest wages (less than 1 % and more than 99 %) in each country are excluded.

The benefits a couple[63] can expect to receive in joint status k were estimated by multiplying the predicted probability of receiving benefits with the estimated level of benefits a couple would receive (see Blau, 1997). The probability of receiving benefits and benefit levels were estimated using logit regression and OLS regression, respectively, separately for each country from the annual measure of benefits received during the previous year. Because of this, the information was fetched from wave $t + 1$. The annual measure was used because of serious problems in the monthly household income measure.[64] However, I transformed the annual benefit levels to monthly ones to get an estimate of the monthly benefits available to a couple in state k. In the estimation, the benefits were also logged; in the transition models, the estimated benefits are in their original scale. I estimated the probability of receiving benefits and the benefit levels separately for each joint status (dual employment, male breadwinner, female breadwinner, dually jobless). Since a couple can occupy several joint statuses during one year, I estimated the models with a sample of couples, who occupied the joint status in question throughout the year. Information on the joint statuses occupied at each month of the year were obtained from the "calendar of activities" variables for each month from wave $t + 1$.

[63] I use benefits expected benefits for couples instead of individuals because many benefits are targeted at households or take the household situation into account. Separating such benefits from purely individual benefits was not possible with the data at hand. A problem with this approach is that it may increase measurement error. I thank Wout Ultee for pointing out this problem, the possible consequences of which will be discussed in the results section of the chapter (6.5.2).

[64] For example, in a large share of households the reported total *net* household income remained below the sum of the *gross* wages of the partners. This is likely due to the fact that - unlike in the annual measure, which is a sum of the individual incomes received - monthly household incomes were reported by the reference person of the household. Many reference persons grossly underestimate the incomes of their household, an interesting research question in itself.

The independent variables included in the logit and OLS models reflect the main factors affecting benefit receipt and the level of benefits (see, MISSOC, various years). The predictors for benefit receipt and levels for jobless couples are: dummies for the duration of joblessness of the partners (with the categories: jobless for one to two years; jobless for three years or more; jobless for up to a year (reference category)), dummies for partners who have never worked, bad health of the partners (constructed as above), size of household, age of husband, and year; for female breadwinner families: hourly wage of wife, hourly wage of wife squared, hourly wage of wife cubed, joblessness duration dummies for husband, husband ever worked, bad health of husband, size of household, and year; for male breadwinner households: hourly wage of husband, hourly wage of husband squared, hourly wage of husband cubed, joblessness duration dummies for wife, wife ever worked, bad health of wife, size of household, and year; and finally, for dually working couples: hourly wage of husband, hourly wage of husband squared, hourly wage of husband cubed, hourly wage of wife, hourly wage of wife squared, hourly wage of wife cubed, size of household, and year. Other possibly relevant variables, such as previous occupation, could not be used because of a large number of missing cases. The highest percentage of the estimated benefits in each country was excluded when calculating the expected benefits.

The income variables in the ECHP are in national currency (before the Euro). To make them comparable across countries, they are expressed in Purchasing Power Parity adjusted US dollars (with a measure found from the ECHP Country Files), and deflated to their value at the year 2000, using an index from the IMF World Economic Outlook Database (IMF, 2007). Expected benefits are, furthermore, divided by 10.

6.5 Results

6.5.1 Joint transition rates of couples: descriptive data

I start by presenting some descriptive data on joint transitions. Columns (1) to (12) in Table 6.3 present the transition rates from dual joblessness, male breadwinning, and female breadwinning, respectively.

Table 6.3. Annual joint transitions rates

Origin state	Dual joblessness				Male breadwinning				Female breadwinning			
Destination state	Both work	Male breadw.	Female breadw.	Both jobless	Both work	Male breadw.	Female breadw.	Both jobless	Both work	Male breadw.	Female breadw.	Both jobless
	λ_{41}	λ_{42}	λ_{43}	λ_{44}	λ_{21}	λ_{22}	λ_{23}	λ_{24}	λ_{31}	λ_{32}	λ_{33}	λ_{34}
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	0.0667*	0.1833†	0.0667	0.6833	0.1958	0.7749	0.0064†	0.0230	0.2109	0.0748†	0.6667	0.0476*
Belgium	0.0138*	0.1073	0.0381†	0.8408	0.1219	0.8422	0.0026*	0.0334	0.2258	0.0065*	0.6774	0.0903†
Denmark	0.0615*	0.1692†	0.0615*	0.7231	0.3848	0.6415	0.0086*	0.0151*	0.4528	0.0566*	0.4434	0.0472*
Finland	0.1235†	0.2469†	0.1235†	0.5062	0.3636	0.5954	0.0071*	0.0339†	0.3889	0.0625*	0.5000	0.0486*
France	0.0805	0.2931	0.0728	0.5536	0.1362	0.8278	0.0047†	0.0313	0.3530	0.0499†	0.5268	0.0702
Germany	0.0920	0.2209	0.0613†	0.6258	0.1912	0.7594	0.0108	0.0386	0.3608	0.0512†	0.5234	0.0646†
Greece	0.0864	0.3063	0.0497†	0.6258	0.1041	0.8644	0.0033†	0.0283	0.3095	0.0516†	0.5754	0.0635†
Ireland	0.0301†	0.2010	0.0585	0.7004	0.1417	0.8174	0.0068†	0.0342	0.2780	0.0538†	0.5516	0.1166†
Italy	0.0219†	0.2088	0.0324†	0.7070	0.0692	0.8922	0.0036	0.0350	0.1881	0.0273†	0.7267	0.0579
Portugal	0.0441†	0.2000	0.0912	0.6647	0.1415	0.8324	0.0040†	0.0221	0.2534	0.0272†	0.6567	0.0627†
Spain	0.0599	0.3487	0.0864	0.5049	0.0993	0.8471	0.0080	0.0456	0.3104	0.0872	0.4849	0.1174
United Kingdom	0.0557†	0.1362	0.0681†	0.7399	0.2352	0.7322	0.0037*	0.0289	0.2635	0.0299†	0.6317	0.0749†
EU12 (weighted)	0.0603	0.2369	0.0564	0.6464	0.1280	0.8310	0.0059	0.0351	0.2970	0.0461	0.5847	0.0721

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.
Notes: * number of transitions <10; † number of transitions 10-30.

More than half of the couples in each joint status were found from the same status the preceding year (female breadwinning in Denmark, Finland, and Spain are the exceptions). Consistent with our hypotheses, male breadwinner solutions are more stable than female breadwinner solutions, and the transition rates to dual employment are higher from female breadwinning than male breadwinning. The latter differences are the smallest in Austria, Finland, and the United Kingdom, where the higher transition rates from female to male breadwinning than vice versa (the same pattern holds in each country) contribute to the higher instability of female breadwinning. Interestingly, female breadwinning appears less stable than dual joblessness. Also consistent with our hypotheses, the transition rates from dual joblessness to female breadwinning are smaller than the transition rates to male breadwinning in each country.

Even though the observed transition rates correspond to our hypotheses in each country, the cross-national variation in the transition rates is rather notable. For example, the probability that a dually jobless couple was found in the same joint status the preceding year varied from an approximately 50 percent in Spain and Finland to over 80 percent in Belgium. Simplistic comparisons also suggest that the macho-effect may be stronger in some countries (for example, Italy) than in others (for example, Finland).

6.5.2 Conditional logit transition models

While the results in Table 6.3 give primary support for the macho-effect hypothesis, the observed differences may be due to different characteristics of the spouses and couples in the different joint labour market statuses. To look into this possibility, I perform a two-step analysis as discussed above, and begin by estimating the conditional logit models for the joint transitions.

Table 6.4. Annual joint transitions of couples, conditional logit estimates

Origin state	Dual joblessness			Male breadwinning			Female breadwinning		
Destination state	Dual emp. (4 → 1)	Male breadw. (4 → 2)	Female breadw. (4 → 3)	Dual emp. (2 → 1)	Female breadw. (2 → 3)	Dual joblessness (2 → 4)	Dual emp. (3 → 1)	Male breadw. (3 → 2)	Dual joblessness (3 → 4)
Couple-specific covariates									
Husband's wage	0.737	1.876***	-0.502	-0.722***	-3.365***	-2.969***	0.894***	1.766**	0.651**
Wife's wage	2.535***	-0.714**	1.710*	1.319****	2.749***	1.514***	-0.566***	-2.896***	-2.459***
Husband's education: Mid.	-0.242	0.217	0.037	-0.215***	-0.618*	-0.221*	0.066	0.148	-0.133
Husband's education: High	-0.945*	-0.016	-1.086*	-0.439***	-1.447***	-0.487**	0.525**	0.472	0.123
Wife's education: Middle	0.595**	-0.091	0.327	0.214***	0.185	-0.336***	0.177	-0.340	-0.057
Wife's education: High	0.504	-0.108	0.922**	0.682***	0.368	-0.309†	0.233	-0.818*	-0.024
Husband's age 25-34	0.614**	0.504***	-0.088	0.247***	0.408†	-0.084	0.355*	0.330	0.146
Husband's age 45-55	-1.199***	-0.589***	-0.095	-0.558***	-0.085	1.119***	-1.031***	-0.793**	-0.207
Number of children	-0.146	0.030	-0.054	-0.074**	-0.201	-0.074†	-0.097†	0.031	0.058
Child <3 years	-0.223	0.252†	-0.418	-0.567***	-0.420	0.300**	0.251	1.175***	0.703*
Husband's health bad	-1.154***	-1.566***	-0.134	0.125	2.063***	1.186***	-1.528***	-1.793***	-0.115
Wife's health bad	-0.845*	-0.163	-0.884**	-0.983***	-1.097**	-0.264*	-0.250	1.014**	0.826***
Married	0.066	-0.042	-0.189	-0.365***	-0.513	-0.519**	-0.167	-0.754*	-0.674*
Male regional unemp. rate	0.019	-0.070***	0.009	-0.020*	0.038	0.052***	-0.032	-0.151***	-0.080*
Female regional unemp. rate	-0.036	0.034**	-0.025	-0.006	-0.012	-0.019*	0.016	0.127***	0.067**
Austria	-2.472**	-1.161†	-0.961	-0.835***	-0.491	-0.345	-0.994***	0.031	-0.343
Belgium	-3.670**	-1.234***	-1.188*	-1.356***	-3.415***	-0.467*	-0.914**	-2.372*	0.433
Denmark	-0.176	-0.553	-0.548	-1.009***	-2.757**	-1.823***	0.631†	0.984	0.860
Finland	1.094*	0.133	0.852	0.303†	-1.804**	-0.758*	-0.039	0.232	-0.391
France	-0.482	-0.402	-0.007	-0.704***	-0.862*	-0.801***	-0.552**	-1.409**	-0.408
Greece	0.369	-0.296	-0.335	-0.480***	-2.601***	-3.047***	-0.251	-1.757***	-1.350**
Ireland	-1.271**	-0.493*	-0.738†	-0.212	0.303	-1.012***	-0.469†	-0.784†	0.431
Italy	-1.841**	-0.599*	-1.090*	-1.201***	-1.893***	-1.841***	-1.204***	-2.088***	-0.818*
Portugal	1.530**	0.517†	1.162*	-0.159	-3.257***	-3.401***	0.064	-1.815**	-1.778***
Spain	0.182	0.284	0.706†	-0.483***	-1.618***	-1.822***	-0.266	-1.290**	-0.457
United Kingdom	-0.990*	-0.823**	0.095	-0.060	-1.749**	-0.536*	-0.292	-0.234	0.573
Austria*no. children	0.755†	0.555	0.394	0.199**	-0.702*	-0.153			
France*no. children				-0.180**	-0.314†	-0.161			
Ireland*no. children				-0.018	-0.351	0.252**			
Italy*no. children				-0.016	-0.458†	-0.414***	0.912†	-0.751	-1.042
Austria*child < 3 yrs.				0.719**	0.481	-0.822			
Finland*child < 3 yrs.				-0.814**	0.541	0.060			
Ireland*child < 3 yrs.	-1.312	-0.474	1.493**						

Table 6.4 (continued)

Italy*child < 3 yrs.				0.386*	-0.981	-0.766**			
Portugal*child < 3 yrs.				0.507**	1.102	-0.513			
Destination state specific									
Expected benefits / 10		0.015***			-0.036***			-0.005*	
Constant	-4.784***	-1.463**	-2.890***	-1.196***	0.203	3.166***	-0.221	0.444	1.493*
Log pseudolikelihood		-3256.691			-17429.803			-2930.006	
X^2		2338.81			23233.69			1941.89	
Df		88			106			85	

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.

Notes: Omitted reference categories: No transition (origin state specific), Husband's education low, wife's education low, Husband's health not bad, wife's health not bad, no small children, not married, Germany.

Significance levels: † p<0.10; * p<0.05; **p<0.01; *** p<0.001

Table 6.4 presents the results from these models. The results are displayed for the most part in the same way as results for multinominal logit models, the only difference being the single estimate for the destination state specific parameter, the expected social benefits from each joint status. A positive sign of this covariate tells that the higher the expected benefits from a joint status, the higher the probability of moving to this status. The sign of the estimated effect of expected benefits is unlike that expected in two of the three cases. For dually jobless couples, a $ 10 (PPP) increase in expected benefits in joint status *k* translates to an estimated 1.5 (100*(*exp*(0.015)-1)) percent increase in the transition rate to this status. For male and female breadwinner couples, a similar increase in benefits decreases their transition probabilities by an estimated 3.6 and 0.5 percent, respectively.[65]

The effects of the other covariates are mainly as expected, and can be summarized as follows. Wages show mainly the expected effects. An increase in own wages promotes own employment. The exception is the weak and non-significant effect of wages of the husband on transitions from dual joblessness to dual employment. Consistent with earlier literature (see Chapter 3, Section 2), the wife's wage effect is slightly stronger on her employment entry than the husband's wage effect on his entry. Important cross-spouse wage effects can be found. Higher wages decrease the spouse's entry to employment (this is also a possible explanation to the weak effect of male wages on transitions from dual joblessness to dual employment). Consistent with the literature, the wages of the husband have a stronger cross-spouse effect than the wages of the wife. The effect of wages is particularly strong in "role switches", where the supporter becomes the supported. In such cases, the estimate combines two effects, the negative effect of wages on the employment exit of the ego, and the also negative effect on the employment entry of the spouse. Own wages (especially of the wife) increase them strongly, while wages of the spouse (especially of the husband) prevent such switches. For example, a one percent increase in the wages of the male breadwinner decrease the probability of a role switch by 3.4 percent, while a one percent increase in the wages of the male breadwinner's wife increases its probability by 2.7 percent.

[65] Measurement error in expected benefits is a source of possible bias. In such a case, the estimates would be downwardly biased, which could explain the negative signs. Finding a proper instrument for the expected benefits proved difficult. Instead, in the simulations below, I made tests, in which the estimates of expected benefits were changed upwards (up to 0.1). These naturally changed the predicted transition rates, sometimes unplausibly so, but not the qualitative conclusions.

Higher education of the husband leads to more stable male breadwinning (even when wages are controlled for). Furthermore, high education of the husband decreases the transition probability from dual joblessness to dual employment and female breadwinning, and increases transitions from female breadwinning to his employment. Female education promotes transitions from to dual earning, when she is mobile. Older couples are less likely to move to dual earning, but are also less likely to have role switches from female breadwinning, whereas younger couples are more likely to move to dual earning. As one would expect, an increase in the number of children stabilizes male breadwinning. Small children have a negative effect on their mother's employment, from male and female breadwinning alike, and increase the probability of role switches in the latter case. Bad health generally weakens the couple's attachment to the labour market, and the own and cross-spouse effects of bad health of the husband are stronger than those of the wife (cf. Blau, 1998; Blau and Riphahn, 1999; Jiménez-Martin et al., 1999, on the behaviour of older couples). Marriage stabilizes sole breadwinner arrangements, without having an effect on the transitions from dual joblessness. The direct and cross-spouse effects of regional male and female unemployment rates are mainly as expected.

Without going to the details, many of the country parameters remain significant and often large after the couple-level covariates are controlled for. The table also shows the interaction terms, the inclusion of which were supported by the likelihood ratio–tests. The relevant parameters of the countries used for the simulations are described further in the next section.

6.5.3 Simulated transition rates

Interesting as they are, the parameter estimates from the conditional logit joint transition models are not very helpful in evaluating the macho-effect hypothesis. As discussed above, in the second step of the analysis I simulate transition rates for couples with varying characteristics, using the coefficients from the estimated models. Before the simulation, Table 6.5 shows the relationship between the actual transition rates and the ones fitted from the estimated models. The models fit the data well. The models slightly overestimate the stability of male breadwinning and dual joblessness, and slightly underestimate the stability of female breadwinning. The differences are, however, minor and should not affect the qualitative conclusions.

Table 6.5. Actual (unweighted) and fitted annual transition rates

	Actual	Fitted
Dual jobless → Dual employed	0.0527	0.0436
Dual jobless → Male breadwinning	0.2430	0.2402
Dual jobless → Female breadwinning	0.0630	0.0610
Dual jobless → Dual jobless	0.6413	0.6694
Male breadwinning → Dual employed	0.1265	0.1193
Male breadwinning → Male breadwinning	0.8343	0.8481
Male breadwinning → Female breadwinning	0.0055	0.0068
Male breadwinning → Dual jobless	0.0338	0.0387
Female breadwinning → Dual employed	0.2909	0.3142
Female breadwinning → Male breadwinning	0.0485	0.0522
Female breadwinning → Female breadwinning	0.5854	0.5780
Female breadwinning → Dual jobless	0.0752	0.0958

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.

The simulations are carried out both for the EU12 as a whole, and separately for the four countries representative of the common welfare regime classifications (Esping-Andersen, 1999): Finland (representing the Nordic countries), Germany (Continental Europe), Spain (Southern Europe), and the UK (liberal regime). Of these, Finland is an interesting case because there women have been in the labour force longer than in most European countries, and the male breadwinner provision model never took properly root (Pfau-Effinger, 2004). The dual employment model has furthermore been supported by family policies. Compared to Germany, the transition rates from dual joblessness and male breadwinning are higher in Finland (Tables 6.3 and 6.4). Maybe surprisingly, Finnish couples with small children have a smaller probability of moving from male breadwinning to dual employment. However, partly as a response to the extensive home-care policies for families with small children, the employment rate of Finnish mothers with children under three years is very low (OECD, 2004a). Germany, in contrast, has historically had a strong male breadwinner model, which has also been supported by public policy. Despite recent rapid increases in the employment of Spanish women, Spain remained a male breadwinner family country during the 1990s. Accordingly, the male breadwinner status is more stable in Spain than even in Germany. Unlike in Germany and Spain, no family model was explicitly favoured in the UK, even though the male breadwinner model was dominant in the past. According to Table 6.4, nearly all of the transition rates are smaller in the UK than in Germany.

Table 6.6. Median and modal values of the independent variables

	EU12	Finland	Germany	Spain	United Kingdom
Age of husband	35-44	35-44	35-44	35-44	35-44
Husband's education	Low	Middle	Middle	Low	High
Wife's education	Low	High	Middle	Low	Low
Married	Yes	Yes	Yes	Yes	Yes
Children	1	1	1	1	1
Children age 0-3	No	No	No	No	No
Health problems, husband	No	No	No	No	No
Health problems, wife	No	No	No	No	No
Husband's wage	6.54	5.64	7.17	5.58	7.32
Wife's wage	4.80	4.76	4.53	3.94	5.53
Benefits – Both work	52.30	103.43	94.87	31.10	83.60
Benefits – Husband works	134.84	414.16	198.89	39.44	144.56
Benefits – Wife works	506.34	549.72	559.88	407.14	447.04
Benefits – Both jobless	720.03	950.45	872.91	438.14	899.76
Regional male unemp. %	7.23	9.23	7.46	13.02	5.69
Regional female unemp. %	10.25	11.59	8.15	27.26	3.57

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.

Table 6.6 shows the median and modal values of the independent variables. The gender wage gap is visible in the EU12 as a whole, and in each country separately, including in Finland, where the wives in our sample have, on average, higher education levels than husbands. In the other countries, wives have on average lower or the same levels of education than husbands. In the UK, education levels are two-peaked, with most cases found either in the highest or lowest category. In the case of wives, those with low education slightly outnumber those with high education, while for husbands the situation is the opposite. The gender gaps in regional unemployment rates are also visible, with the UK being the only country where the regional female unemployment rate is lower than the male one (cf. Azmat et al., 2006). Not surprisingly, dually jobless couples can expect to receive more benefits than female breadwinner, male breadwinner, and dually working couples. The national differences are as expected on the basis of the welfare regime literature. Otherwise, the median couple is married with one child over 3 years of age, and in good health.

As discussed above, the simulations include three hypothetical cases, and are presented in Table 6.7. The first case represents an "average" couple, which has median or modal values for all independent variables. The simulated transition rates are reported in the second rows for each country and the EU12. The first rows show the observed transition rates. The average couple has a male advantage in wages, education (in the United Kingdom), and unemployment rates (except in the United Kingdom). Therefore the simulated transition rates

for average couples cannot be used to evaluate the macho-effect hypothesis. They are, however, interesting for other reasons.

First of all, they show that dually jobless couples are likely to have worse-than-average labour market characteristics: the median couples have dramatically higher transition rates out of dual joblessness. The transition rates from dual joblessness to dual employment are higher in each country and also the EU12 as a whole. In Finland, these transition rates increase up to 40 percent, while remaining rather low in Spain and the United Kingdom. Median couples also have higher transition rates to male breadwinning, although the difference is more modest in Finland than elsewhere. In Spain, nearly 60 percent of the outflows from dual joblessness in this group are to male breadwinning. In Finland, transitions to female breadwinning are roughly the double from the actually observed rates, while in the other countries and the EU12 the increase in only modest, and in Spain, the estimated transition rate for median couples is actually lower than the observed rate. Recall, however, that in Finland the wife of the median couple has a higher level of education than her husband.

The simulated transition rates for the median couples can also be used to assess the characteristics of male and female breadwinner couples. In Spain, the observed transition rates out of male breadwinning are very similar to those simulated for the median couple. In other words, Spanish male breadwinner couples were the "couples next door" in 1990s Spanish society, which is not surprising given the prevalence of the male breadwinner model in Spain during the past decade. In Finland, Germany, and the United Kingdom, the simulated transition rates differ from the observed ones. In each country, the stability of the male breadwinner solution and transitions to dual joblessness are lower, and transitions to dual employment are higher for the average couple than the observed rates. In these countries, male breadwinners and their wives seem to have lower-than-average resources, as shown by the transition rates to dual joblessness and dual employment.[66] The opposite seems to be true in the case of female breadwinner couples (although the difference between the observed and the simulated transition rates is smaller in Spain than elsewhere).

[66] Because of cross-spouse effects, the issue is somewhat more complicated. The cross-spouse effects are, however, in general weaker than the effects of the ego's resources on his/her transitions. The lower transitions to dual employment are also linked to the presence of children, which affect the occurrence of male breadwinning in these countries.

Table 6.7. Simulated annual transition probabilities

Origin state	Dual joblessness				Male breadwinning				Female breadwinning			
Destination state	Both work	Male breadw.	Female breadw.	Both jobless	Both work	Male breadw.	Female breadw.	Both jobless	Both work	Male breadw	Female breadw	Both jobless
	λ_{41}	λ_{42}	λ_{43}	λ_{44}	λ_{21}	λ_{22}	λ_{23}	λ_{24}	λ_{31}	λ_{32}	λ_{33}	λ_{34}
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EU12												
Actual (unweighted)	0.0527	0.2430	0.0630	0.6413	0.1265	0.8343	0.0055	0.0338	0.2909	0.0485	0.5854	0.0752
Median couple	0.2576	0.4801	0.0798	0.1824	0.2013	0.7514	0.0114	0.0360	0.4729	0.0945	0.3826	0.0499
Same characteristics	0.5440	0.2532	0.0662	0.1367	0.2596	0.5883	0.1009	0.0512	0.4945	0.0305	0.4536	0.0214
Finland												
Actual	0.1235	0.2469	0.1235	0.5062	0.3636	0.5954	0.0071	0.0339	0.3889	0.0625	0.5000	0.0486
Median couple	0.4051	0.2802	0.2356	0.0790	0.3328	0.6591	0.0019	0.0063	0.5322	0.0402	0.4040	0.0235
Same characteristics	0.6496	0.1708	0.1200	0.0597	0.2973	0.6881	0.0053	0.0093	0.5218	0.0305	0.4347	0.0130
Germany												
Actual	0.0920	0.2209	0.0613	0.6258	0.1912	0.7594	0.0108	0.0386	0.3608	0.0512	0.5234	0.0646
Median couple	0.2846	0.4993	0.0828	0.1333	0.1647	0.8215	0.0043	0.0095	0.5585	0.0709	0.3354	0.0351
Same characteristics	0.6483	0.2039	0.0681	0.0797	0.2640	0.6636	0.0556	0.0168	0.5643	0.0200	0.4035	0.0123
Spain												
Actual	0.0599	0.3487	0.0864	0.5064	0.0993	0.8471	0.0080	0.0456	0.3104	0.0872	0.4849	0.1174
Median couple	0.1117	0.5867	0.0503	0.2513	0.1074	0.8675	0.0037	0.0214	0.3926	0.1140	0.3860	0.1074
Same characteristics	0.4645	0.2422	0.0705	0.2227	0.1706	0.7402	0.0454	0.0438	0.4085	0.0095	0.5581	0.0239
UK												
Actual	0.0557	0.1362	0.0681	0.7399	0.2352	0.7322	0.0037	0.0289	0.2635	0.0299	0.6317	0.0749
Median couple	0.1481	0.4149	0.0753	0.3616	0.1467	0.8456	0.0007	0.0067	0.5384	0.0511	0.3627	0.0478
Same characteristics	0.3793	0.2258	0.1382	0.2567	0.3413	0.6468	0.0057	0.0063	0.6226	0.0122	0.3412	0.0240

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.

The second example is used to assess the macho-effect hypothesis more directly. In this case, the spouses have the characteristics of the median husband: his median wage and modal level of education. The couple faces the median regional male unemployment rate, is married, and both spouses are in good health. Since children increase the value of the wife's time at home, and thus decrease her labour supply, this exemplary couple does not have children. Also, the expected benefits from female breadwinning are the same as from male breadwinning. According to our model, the differences in relevant transition rates should stem from the macho-effect, *M*. The simulated transition rates for these couples are shown on the third rows of each country and the EU12, respectively, in Table 6.7.

The results support the macho-effect hypothesis. In each country and the EU12, the transition rates from dual joblessness to female breadwinning are lower than to male breadwinning. Likewise, female breadwinning is everywhere more unstable than male breadwinning, and transition rates to dual joblessness are higher from female breadwinning than from male breadwinning. With the exception of Finland, transition rates from dual joblessness to female breadwinning are also lower than stability in dual joblessness. There are some country differences in the transition rates. In Finland, the difference in the transition rates from dual joblessness to male versus female breadwinning is smaller than elsewhere (but there the transition rate to dual employment is higher). In Spain, the transition rates from female and male breadwinning to dual employment are lower, and stability in both states is higher than in the other countries. At the EU12 level, role shifts from male breadwinning are surprisingly more common than from female breadwinning, and these transition rates are higher than in the four countries. However, one should not draw heavy conclusions on the cross-country differences, because of variation in other institutional features. The other results are: childless couples with the same characteristics have notably higher transition rates from dual joblessness to dual employment, exit more likely from dual joblessness than average couples (with country variation in the difference), are more likely to move from male breadwinning to dual employment (with the exception of Finland) and less are likely to remain in male breadwinning (except in Finland), while the differences between these couples and average couples in transitions out of female breadwinning are smaller (except for female breadwinner stability in Germany, Spain, and the EU12).

Finally, it can be interesting to analyse how the transition rates change when the wife has more labour market resources than her husband: does the macho-effect trump money?[67] This is done in Table 6.8. To save space, I change the characteristics only for the European couple. Because of no interactions between countries and the independent variables in question, the shifts are proportionally similar in the four countries. However, since the intercept level of the transitions varies across countries, the conclusions may differ. Therefore, the main purpose of these simulations is to show the importance of the different variables.

The first row in Table 6.8 is the same as the last row of the European couple from Table 6.7. I simulate six new cases, while keeping the other variables at their original values (see Table 6): an unmarried couple; a couple in which the husband is from the youngest cohort; bad health of the husband; a doubled regional male unemployment rate; an increase in education of the wife to middle and to high education; and a 50 percent increase in the wife's wage.

I concentrate only on the transition rates relevant for the macho-effect hypothesis. Briefly put, the main finding is that within-family health inequality in favour of the wife can outrun the macho-effect. Dually jobless couples in which the husband has health problems have slightly lower transition rates to male breadwinning than to female breadwinning. In such couples, female breadwinning is also more stable than male breadwinning (maybe reflecting the differences in the severity of the health problems) and "role shifts" from male to female breadwinning are common (although entries to dual employment remain slightly more common from female than from male breadwinning).[68]

[67] For a similar question in the case of the division of housework, see Bittman et al. (2002).
[68] Recall, however, that the base level of these transitions was higher in the EU12 than the four countries. These results should therefore be dealt with some caution.

Table 6.8. Further simulations

Origin state	Dual joblessness				Male breadwinning				Female breadwinning			
Destination state	Both work	Male breadw	Female breadw.	Both jobless	Both work	Male breadw.	Female breadw.	Both jobless	Both work	Male breadw	Female breadw	Both jobless
	λ_{41}	λ_{42}	λ_{43}	λ_{44}	λ_{21}	λ_{22}	λ_{23}	λ_{24}	λ_{31}	λ_{32}	λ_{33}	λ_{34}
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
EU12												
Same characteristics	0.5440	0.2532	0.0662	0.1367	0.2596	0.5883	0.1009	0.0512	0.4945	0.0305	0.4536	0.0214
Not married	0.5144	0.2667	0.0808	0.1381	0.3074	0.4834	0.1385	0.0708	0.5102	0.0367	0.3952	0.0579
Youngest cohort	0.6199	0.2585	0.0374	0.0843	0.2969	0.5255	0.1355	0.0421	0.5755	0.0341	0.3701	0.0202
Husband bad health	0.4094	0.1262	0.1381	0.3262	0.1595	0.3190	0.4305	0.0910	0.1831	0.0087	0.7755	0.0327
Male ue. rate doubled	0.6348	0.1546	0.0718	0.1389	0.2199	0.5764	0.1304	0.0734	0.4516	0.0116	0.5230	0.0138
Wife middle education	0.6821	0.1599	0.0635	0.0945	0.3012	0.5509	0.1137	0.0343	0.5438	0.0202	0.4174	0.0186
Wife high education	0.6293	0.1588	0.1163	0.0955	0.3996	0.4578	0.1134	0.0293	0.5614	0.0123	0.4075	0.0188
Increase wife wage 50%	0.7681	0.0959	0.0669	0.0691	0.3091	0.4105	0.2143	0.0660	0.4551	0.0109	0.5249	0.0092

Source: Eurostat (2003) European Community Household Panel, waves 1-8, annual data of couples, husband 25-55 years, no students.

Sharp wage inequality in favour of the wife also decreases the relevance of the macho-effect at the EU12 level: "role switches" from male to female breadwinning are common, and female breadwinning becomes more stable. However, transitions from dual employment to female breadwinning remain rare. The decrease in transitions to male breadwinning results from an increase in transitions to dual employment. The transition rate from female breadwinning to dual employment also remains higher than the rate from male breadwinning to dual employment. The macho-effect seems weaker also in couples in which the wife has tertiary education and the husband less than a second stage of secondary education. In any case, the differences between the transition rates remain as hypothesised by the macho-effect hypothesis. A doubling of the regional male unemployment rate tells a similar story. Marriage and age group do not seem to matter.[69]

6.6 Conclusions and discussion

In this chapter, I have discussed and tested the so-called macho-effect hypothesis, which predicts that couples are unlikely to choose a female breadwinning solution because of the strongly gendered roles of economic provision. Many qualitative studies have used this explanation to understand why women with unemployed husbands have lower employment rates than wives with employed husbands. However, quantitative data have not been yet used to test the hypothesis explicitly. The macho-effect hypothesis can be included among the culturally inspired theories of "doing gender". I argued that despite the increases in female employment rates and dual-earner couples, the cultural role of the female supporter family model remains more problematic than one might expect. Starting from the macho-effect hypothesis, I made predictions of the joint employment dynamics of couples. I tested them with data from twelve European countries from the European Community Household Panel by simulating transition rates based on parameter estimates from conditional logit models for transition data.

The results support the predictions. Transitions from dual joblessness to female breadwinning are very rare; furthermore, female breadwinning is a less stable joint labour market status than dual employment, male breadwinning, and even dual joblessness, and female breadwinning is more likely than male breadwinning to transform to dual employment. These qualitative

[69] In result not presented here, I also included interactions between the wage variables and the number of children and the age of the youngest child to account for the possibility that children change wage elasticities. The signs of the estimates were as expected, but they usually were not statistically significant. Moreover, the qualitative conclusions did not change.

conclusions remain even when the spouses have the same levels of labour market resources, and do not have children. These conclusions held for the twelve European countries as a group, and for Finland, Spain, Germany, and the United Kingdom separately. Thus, European couples seem to avoid female breadwinning.

This avoidance can be overcome by strong within-couple inequalities that favour the wife. In particular, couples in which husbands have health problems seem less wary of female breadwinning. In addition to a reduction in employment possibilities, ill health of the husband may be an "excuse" to hold behaviours that oppose the prevailing cultural expectations of male provision. Wage and human capital advantage of the wife can also increase the utility of joint employment patterns, which function against the macho-effect. However, within-family economic inequalities in favour of the wife need to be strong to overcome the stigma of female breadwinning; for example, a clear wage advantage of the wife mainly increases transitions from dual joblessness to dual employment, but not to female breadwinning. In other words, cultural expectations of family provision have a strong influence on couples' labour supply decisions.

Financial incentives do not explain the observed avoidance of female breadwinning. But do these results permit to conclude in favour of the macho-effect hypothesis? A problem of these analyses is that we cannot observe what is happening inside the family. For example, the literature on the retirement behaviour of couples has concluded that spouses try to maximize their common leisure. It could be that wives are more keen to spend time with their jobless husbands than vice versa. But this explanation does not help us understand why female breadwinner couples move to dual employment more often that male breadwinner couples. Alternatively, the Beckerian thesis of the division of labour in families predicts that husbands and wives with similar labour market resources might still choose male breadwinning instead of female breadwinning if the productivity of the wife at home exceeds that of the husband (Becker, 1981). If husbands were practically incapable of doing housework (or perceived as such), wives with similar or higher labour market characteristics than their husbands may opt for outsourcing of housework or take a "dual burden" of employment and housework, while their husbands remain employed. However, it is important to acknowledge that any real or perceived male incompetence in housework depends strongly on cultural conceptions of what men do, can do, or should do. In any case, the norm of male economic contribution to the family remains strong.

Controlling for unobserved variables was beyond the scope of this chapter. It is naturally possible that unobserved factors bias the estimates of the independent variables. Neither did I control for sample selection bias, because of a lack of suitable instruments. However, underlining the macho-effect hypothesis, sample selection can be an issue in the case of female breadwinner couples. The employment rates of men (male breadwinner + dual employment) whose wives were breadwinners during the previous year are generally lower than in the other cases, even when the partners share the same characteristics (Tables 6.7 and 6.8). This underlines the unusual nature of female breadwinning in Europe.

A comparison of Tables 6.1 and 4.5 reveals another interesting pattern. The share of dually employed couples estimated on the basis of the ILO-based measure of joint labour market attachment is often higher and the share of male breadwinner couples is lower than on the basis of the retrospective monthly measure used in Table 4.5. The latter is based on the respondents' accounts of their main activity status, as discussed in the second section, third part of Chapter 4. The obvious tendency of many women to report part-time employment as something else than their main activity suggests that the results from this chapter may be conservative estimates of the macho-effect: approximately ten percent working women (regardless of the employment status of the husband) defined something else than paid work or self-employment as their main activity status, whereas the share was less than one percent among working husbands.

Despite these possible problems, and needs for additional research,[70] I believe that the results presented in this chapter do speak in favour of a macho-effect which affects the labour supply decisions couples make. At least, they throw the ball to the sceptical side of field. The results emphasise the importance of taking the family – and culturally held beliefs – seriously when analysing labour supply decisions (cf. Algan and Cahuc, forthcoming). Even though it was not possible to open "the black box of the couple" in terms of the meanings attached to different models of family provision, the analyses also emphasise the importance of analysing couples' behaviour instead of general attitudes for or against female breadwinning. Curiously enough,

[70] Furthermore, it would be interesting to estimate unemployment rationing equations (Bingley and Walker, 2001) to evaluate the importance of involuntary unemployment. This was, however, beyond the scope of this paper.

this same belief is shared by many economists and ethnomethodologists, who usually are found from very opposite methodological camps.

The results can be used to understand why the female breadwinner model remains so rare in the Western countries, despite the increase in female education, labour supply, and wages, and a decrease in the economic prospects of many men (e.g., Juhn and Murphy, 1997). In a *New York Times* interview, Kathleen Gerson said that "for some reason we hit a roadblock when it comes to single-income households where the single earner is a woman" (Dunleavey, 2007). Because of this roadblock, we may not see any dramatic increases in female breadwinning – and thus a fundamental shift in gender relations – even as women are taking over men in educational qualifications (Buchmann and DiPrete, 2006). For the same reason, dually jobless couples may remain dually jobless longer than needed, and policies targeted at increasing the labour supply of wives with jobless husbands may not be as effective as expected.

7 CHILDBEARING AND DUAL JOBLESSNESS IN EUROPE

7.1 Introduction

In the previous chapters, I studied the general dynamics of dual joblessness and how gender shapes the transitions out of it. The focus of these chapters was implicitly on the experiences of the spouses, that is, adults. However, many children experience dual joblessness through the joblessness of their parents. Although "jobless parenthood" is mainly associated with single mothers, it affects children in "nuclear families" as well. We can see this from Table 7.1. Between 1994 and 2000, an average of 12.4 percent of Irish, and 8.7 percent of Spanish children who lived with two parents (including step/adoption parents) experienced dually jobless parenthood.[71] Even though household joblessness rates were higher in single-parent families, the fact that most European children live with two parents means that most children are at risk of household joblessness through dually jobless parenthood. Children with jobless parents have a higher likelihood of experiencing poverty. In a recent study, Stephen Nickell (2004: Table 3) estimated that over half of poor British children live in jobless households, or, the other way around, over three fourths of children living in jobless households were poor.

Table 7.1. Children in (jobless) couples, 1994-2000 (%).

	All children	
	Living with two (step)parents	…who have dually jobless parents
Nordic		
Denmark	85.82	2.42
Finland	91.09	2.89
Continental		
Austria	91.52	2.62
Belgium	89.36	4.88
Germany	88.99	3.18
France	89.26	3.14
Luxembourg	92.47	2.24
Southern		
Greece	96.12	2.31
Italy	95.06	4.66
Portugal	93.34	2.84
Spain	95.06	8.68
Liberal		
Ireland	93.03	12.44
UK	84.03	7.05

Source: Eurostat (2003) European Community Household Panel,
waves 1-8, monthly data of couples, father < 49 years, mother < 46 years, neither parent a student.

[71] The trends in children's exposure to dual joblessness are presented in Figures A7.1a to A7.1d in the Appendix to the chapter. In some countries, the shares fell rapidly, but in others they remained noticeably stable throughout the period covered.

Children's exposure to dual joblessness was similar or higher than the average dual joblessness rates. This means that that many children were more likely to experience dual joblessness than adults and at least some couples with children had notably high risks of dual joblessness. Table 7.2 shows the rates of dual joblessness across different family types (note that here the age-limitation is different than previously: husband less than 49, wife less than 46 years old; for data restrictions see Section 3 below). In some countries, such as Denmark, childless couples had lower or similar dual joblessness rates as couples with children. In Spain, the United Kingdom, Germany, and especially Ireland, couples with children had higher dual joblessness rates. Looking at the different parity levels in more detail, couples with two children often had somewhat lower dual joblessness rates than those with one child only, whereas in most countries, dual joblessness was more common at higher parities. The rates were especially high among couples with four children or more (with the exception of Greece). Couples with children aged three years or less often had higher-than-average rates of dual joblessness.

Table 7.2. Children and jobless couples in twelve European countries, 1994-2000 (%).

	All couples	Childless couples	With kids	1 child	2 kids	3 kids	4+ kids	≤ 3 years
Nordic								
Denmark	2.30	3.05	2.07	2.49	1.36	1.33	9.78	3.47
Finland	2.57	2.36	2.62	3.16	2.29	1.79	4.66	4.96
Continental								
Austria	2.28	1.94	2.34	2.63	1.54	2.51	8.43	2.75
Belgium	3.84	3.28	3.95	3.03	3.38	4.06	13.58	4.09
Germany	2.56	1.56	2.88	2.94	1.90	5.29	5.66	5.65
France	2.55	2.38	2.59	2.15	1.81	3.53	9.52	3.56
Luxembourg	2.04	2.13	2.02	2.20	1.10	3.21	5.38	2.25
Southern								
Greece	2.49	2.82	2.44	2.90	2.26	2.56	0	2.67
Italy	4.40	4.24	4.44	4.41	3.87	5.94	10.55	4.81
Portugal	1.87	1.43	1.95	1.24	1.52	2.98	9.15	2.75
Spain	7.67	5.87	8.02	7.59	7.20	9.96	22.97	8.35
Liberal								
Ireland	10.03	3.39	10.92	9.21	8.29	12.04	16.52	10.24
UK	4.57	1.69	5.61	4.66	3.70	7.93	22.88	7.06

Source: Eurostat (2003) European Community Household Panel, waves 1-8, couple-months. Husband less than 49 years old, wife less than 46 years old, neither spouse enrolled in education.

These differences raise the question whether childbearing affects the risk of dual joblessness. A sizeable amount of literature has documented how childbearing depresses the employment of mothers. A smaller body of literature has found some evidence for positive labour market effects of childbearing for fathers (e.g., Lundberg and Rose, 2000; 2002; Lundberg, 2005). The decrease in mothers' employment suggests that childbearing increases dual joblessness, while the possible increase in fathers' labour supply can offset this effect. Previous research

offers only limited guidance. Gregg, Scutella, and Wadsworth (2004) found that the accumulation of joblessness was stronger among couples with children in Britain and Australia (cf. also Irwin and Morris, 1993; Bingley and Walker, 2001; Dawkins et al., 2002), whereas the opposite was true in Germany and Spain, and no differences were found in the United States. In Chapter 5, we also found how couples with children had lower exit rates from dual joblessness. However, none of the studies have focused explicitly on children and dual joblessness, and apart from Bingley and Walker (2001), have not controlled for unobserved factors.

In this chapter, I estimate the effect of children on the risk of dual joblessness using fixed effects logit models. The models distinguish between the effects of different parity levels and the age of the youngest child. I also examine selection to parity levels by dual joblessness risk and institutional correlates of the estimated effects. The evidence in the chapter is primarily descriptive, that is, I do not open the "black box" of labour supply within the family. I chose the descriptive approach due to the lack of basic information on the link between childbearing and dual joblessness.

The next section presents the theoretical framework for the empirical analyses. I present hypotheses for the effects of childbearing and of the age of the youngest child, discuss selection issues, and form hypotheses of the associations between the child effects and three key institutional factors. In the subsequent section I present the empirical models and the sample used. The fourth section presents the results, and the last presents the conclusions.

7.2 Theory

7.2.1 The effect of childbearing on dual joblessness

An abundant literature shows that motherhood reduces labour supply. The reduction can be seen both in the employment and hours responses to motherhood, can be found through a wide range of countries, and has also been established by analyses that controlled for unobserved factors (e.g., Killingsworth and Heckman, 1987; Blau and Robins, 1991; Kravdal, 1992; Angrist and Evans, 1998; Gornick et al., 1998; Uunk, 2005). The leading explanation attributes this fall to the increased value of women's time at home due to childbirth: since children need care and attention, mothers value their time at home more than that in employment, and thus decrease their labour supplies (e.g., Becker, 1981; 1985). Becker's

theory relies heavily on the notion of specialization within the family. In this scheme, husbands and wives divide their time between paid work and housework according to their relative efficiencies in each sphere. Since wives are expected to have a relative efficiency in housework, they are more likely than their husbands to remain at home.[72] Parenthood strengthens such interdependency of spouses' labour market behaviour (Lundberg, 1988). The behaviour of employers can also affect mothers' employment. For example, drawing on their results from an experimental study, Correll, Benard, and Paik (2007) concluded that employers evaluated mothers less favourably than other women in terms of perceived competence and discriminated against mothers in their hiring decisions.

The specialization thesis not only predicts a decline in the labour supply of mothers, it also predicts that fathers increase their labour supplies. Several studies have reported a marriage premium for men (Korenmark and Neumark, 1991; Loh, 1996; Petersen et al., 2006). The evidence on the fatherhood effects on labour supply is somewhat ambiguous, but several studies have found positive effects after controlling for fixed unobserved effects (Lundberg and Rose, 2000; 2002; Petersen et al., 2006; Choi et al., 2007; for zero effects from an instrumental variables approach, Angrist and Evans, 1998).[73] The increase in paternal labour supply can be seen as a response to the financial pressures arising from family events, and the results support the claim that this effect is stronger than the increased demand for men's home-time induced by parenthood (Lundberg and Rose, 1999; Lundberg, 2005). Furthermore, Correll and colleagues found that in some cases employers may evaluate fathers more favourably than other men with similar characteristics (Correll et al., 2007), which strengthens the positive effect of fatherhood on employment.

The specialization thesis and the empirical evidence suggest ambiguous effects of childbearing on the risk of dual joblessness. On the one hand, we can expect childbearing to decrease wives' employment and increase the likelihood of male breadwinning. Since single-earner couples have a higher risk of dual joblessness than dual-earner couples (see Chapter 5), we can expect that childbearing increases the risk of dual joblessness. On the other hand, fathers can increase their labour supplies to counter this effect and protect their families

[72] Needless to say, the objective and perceived differences in these efficiencies are shaped by cultural gender roles, identities, and interactions. Such "essentialist" views have also been criticized (e.g., McDonald, 2000). Too keep the discussion simple, and in light of the results from the previous chapter and other research, I use the gendered division of labour as the general framework.

[73] Curiously enough, the positive labour supply response seems stronger to the birth of sons than to daughters (Lundberg and Rose, 2002).

against financial risks such as dual joblessness. The net effect of childbearing on dual joblessness thus depends on the balance of these effects.

However, the mechanisms involved are likely to be more complex. First, the effects of childbearing depend on the age of children, and specifically, on the age of the youngest child. Toddlers need more care and attention than older children, and parents (mothers) are more likely to stay at home caring for the former than the latter. Consequently, maternal employment is the lowest in households with small children (e.g., OECD, 2004a). Therefore, we need to distinguish between short-term and long-term effects of childbearing on dual joblessness.

We can expect that the short-term effect of a birth is a reduction in maternal employment and an increase in the probability that the couple chooses male breadwinning. While fathers are expected to increase their labour supplies to compensate for the decrease in the labour supply of the wife, we can expect that the short-term net effect is dominated by the reduction in wives' employment. Thus, the expected short-term effect of childbearing is an increase in the risk of dual joblessness. Below, I will refer to this effect as the "initial shock" effect. However, mothers are more likely to return to work as the child grows older. Accordingly, the initial shock effect should gradually fade away. Indeed, the total labour supply of a couple with older children may be even higher than the supply of a childless couple. Therefore, older children may decrease the risk of dual joblessness.

Second, the effects of children are likely to depend on parity level. The effect of childbearing on female labour supply is non-linear, so that the first (two) children have the strongest effects (Lundberg and Rose, 2002: 252). This is also feasible from the point of view of the specialization thesis and everyday understanding: the marginal demand for parental time is higher for the first child than subsequent ones. Similarly, the fatherhood effects decrease by parity level (Lundberg and Rose, 2002). Consequently, we may expect that the initial effect of childbearing is stronger for the first child(ren), and smaller for the subsequent ones.

7.2.2 Selection issues

An alternative explanation to the variation in dual joblessness rates by parity level is naturally that these differences depend on the fertility patterns of couples with different risks of dual joblessness. However, it is not altogether clear whether couples with high risks of dual

joblessness would have more children than those with low risks. According to the economic theory of the family, fertility decisions are shaped by preferences for and the costs of children, the latter of which can be direct (such as nutrition, clothing, education, hobbies, and the like) or opportunity costs (forgone earnings due to being outside the labour market, skills erosion, and lost experience and seniority) (e.g., Willis, 1973; Hotz et al., 1997). In general, fertility is positively related to incomes and negatively related to the costs of children. However, these relationships are not straightforward. Instead of having more children, high income families can opt to invest in the "quality" of children – such as education, clothing, sports, and the like – or of course spend on something completely different.

Because women are expected to be the ones withdrawing from employment due to parenthood (even for a short period), mothers face most of the opportunity costs of childbearing. Therefore, male employment, human capital, and earnings are expected to boost fertility, but the effects of female resources and labour market behaviour depend on the balance between the opportunity costs of childbearing (substitution effect) and the change in incomes (income effect). The former hypothesis has received strong support in the literature (e.g., Happel et al., 1984; Heckman and Walker, 1990; Oppenheimer et al., 1997). The empirical evidence regarding the latter is somewhat mixed. For a long time, the general wisdom was that female human capital and employment were negatively related to fertility, thus stressing the opportunity costs of childbearing. However, some recent studies have reported a change in the relationship to a positive one (e.g., Andersson, 2000; Rindfuss et al., 2003; Adserá, 2004; see also Kögel, 2004; Engelhardt and Przkawetz, 2004). In general, modern women with more human capital continue to have their first births later, but some studies have reported that the effect of education on total fertility and subsequent births is less clear (e.g., Hoem and Hoem, 1989; Blossfeld and Huinink, 1991; Martin, 2004; Vikat, 2004; Aassve et al., 2006).

These theorizations and empirical results send mixed signals of the expected association between fertility and dual joblessness. The total effect depends on the balance of three different mechanisms: the effect of the husband's human capital and employment (income effect), and the income and substitution effects of the wife's human capital and employment. Other approaches can be used to supplement the framework. In the context of union formation, Oppenheimer (1988; Oppenheimer et al., 1997) argued that economic stability is a fundamental requirement for starting a family. In the same vein, Easterlin (1975; 1976) has

argued that couples postpone or forgo fertility when confronting or expecting economic problems. One could thus argue that to the extent that couples can anticipate weak labour market attachment (for example, by acknowledging their career stage and employment stability), couples at high risk of dual joblessness are less likely to have a child. The selection effects can vary according to parity level. Hakim (2000; 2003) has argued that while most women are responsive to economic and social incentives in planning their family and labour market careers, minorities (both approximately 15 percent) put either their career or family first and are less responsive to these incentives. Career oriented women (those with the lowest risks of joblessness) are the ones most likely to remain childless (and single), while family-oriented women (those investing less in human capital and the labour market) are more likely to have more children than one or two. Accordingly, selection may the strongest for the first and three-and-above births.[74]

7.2.3 Institutional correlates and cross-national variation in the effects of children on dual joblessness

The figures in Table 7.2 showed cross-national variation in dual joblessness by parity level. The differences between couples with and without children were minor in some countries, but bigger in others. The framework presented on the expected effects of children on dual joblessness applies to childbearing effects within countries. However, we can expect that these effects vary cross-nationally and are influenced by the institutional differences between European societies (Esping-Andersen, 1999). Here, I will focus on three key institutions that can shape the effects of children on dual joblessness: support for the employment of mothers, direct cash benefits for families with children, and employment protection. I present the country values for the measures of these institutional factors in Table 7.5 in the results section of the chapter.

We can discuss these factors from the points of view of the effects on paternal and maternal employment, and the resulting breadwinner pattern. Most mothers remain out of work directly after childbirth. This decision is likely to be rather insensitive to policies. Therefore, we can expect that the three institutional factors affect maternal employment mainly by influencing whether and when mothers enter employment after childbirth, and thus, the length of the period in which the couple is more likely to choose male breadwinning. Likewise, we can

[74] However, Berinde (1999) found that in Sweden, an alternative path to a third child is university education. This effect may cancel out the effect of family preferences.

expect that institutions, which shape coupled labour market attachment through the employment of mothers shape the effect of the age of the youngest child.

Due to the strong gendered division of labour around childbirth, couples' risk of dual joblessness depends mainly on the employment of the husband. Therefore, I expect that institutions enforcing the employment of fathers decrease the "initial shock" effect of childbirth. Institutional settings can also affect the age of child–depended effect on fathers' labour supply. If fathers respond to the new financial demands and the decrease in female employment by increasing their labour supplies, institutions that reduce these financial demands and support the employment of mothers can reduce fathers' labour supply. Again, the final effect of the age of the youngest child on dual joblessness is complex and depends on the balance of different factors.

The European variation in the employment of mothers is well known. This is associated with the European differences in family policies. In an influential article, Janet Gornick and collegues (1997) identified parental leave, childcare, and school schedules as key policies that support the employment of mothers (for the empirical evidence, Gornick et al., (1998); see also OECD (2001)). The widest variation in maternal employment is among mothers with young children (OECD, 2004a), and following the model discussed above, the early years of the youngest child are expected to have particular influence on the risk of dual joblessness. Therefore, here I limit the discussion to the effects of childcare and parental leave policies.

Both micro-level and comparative research has documented how publicly provided or subsidized high-quality childcare enforces the employment of mothers (e.g., Blau and Robins, 1991; Gornick et al., 1998; Uunk et al., 2004). In line with the Beckerian thesis of the family division of labour, childcare policies have their strongest effect on the labour supply of mothers with small children. Parental leave provision is another policy of interest. All countries in our sample have legislation against dismissals due to childbirth and motherhood. However, the length of paid parental leave and the wage replacement rate vary (Gornick et al., 1998; Bettio and Prechal, 1998; Kamerman, 2000). The effect of maternal leave policies on the employment of mothers is somewhat ambiguous. In the short run, they can enforce maternal employment through job return guarantees, while in the long run, they can lead to loss in work experience by providing paid time off work (e.g., Ruhm, 1998). Following the above theoretical discussion that stresses the importance of the "initial shock" effect and

recovery from it, the main interest is in the short-term effects. The empirical evidence has also stressed the positive effects of maternal leaves on female employment (Ruhm, 1998; Jaumotte, 2003). Summing up, both extensive publicly supported childcare and parental leave policies are expected to boost the employment of mothers with small children (Gornick et al., 1997; 1998; Uunk, 2004). Accordingly, these policies are expected to decrease the childbearing effect on dual joblessness through the effect of the age of the youngest child.

All countries in our sample have financial policies targeted at reducing the costs of children. These consist of cash benefits, tax allowances, exemptions, subsidies, and services in kind (Bradshaw and Finch, 2002). Such policies provide families with unearned income, and thus reduce their labour supply. If these policies only affect the labour supply of mothers, we can expect that they increase the childbearing effect on dual joblessness through the effect of the youngest child (see Jaumotte (2003) on evidence regarding female employment). Child related benefits also provide unearned income for fathers. Thus they can reduce the fatherhood effect on labour supply, and affect dual joblessness both through the "initial shock" effect and the age of the youngest child–effect. However, since the responsiveness of female labour supply to unearned incomes is higher than male elasticity, we can expect the female response to dominate.

Strict employment protection legislation (EPL) is expected to decrease the "initial shock" effect of childbearing by enforcing the employment status of fathers.[75] EPL can also shape the age of the youngest child–effect. Employers may be reluctant to employ mothers with young children, either because of cultural conceptions or perceived risks linked with mothers' assumed inflexibility or lower productivity due to their valuation of home time (Correll et al., 2007; cf. Becker, 1985). EPL can strengthen these effects by increasing total labour costs for employers and by making employers more risk aware in their hires (cf. Esping-Andersen and Regini, 2001). Thus, by increasing job search times among mothers, strict EPL can lengthen recovery from the "initial shock".

[75] Although this is expected to apply on the general level, not all fathers enjoy strong employment protection, as discussed in Chapter 5.

7.3 Models and data

7.3.1 Models for estimating the effects of children in each country

The starting point for the empirical analyses is the following model:

$$y_{it} = \alpha + \sum_{j=1}^{3} \beta_j KID_{ijt} + \rho KID4_{it} + \varphi X_{it} + \mu_i + \varepsilon_{it} \qquad (7.1).$$

y_{it} is the dependent variable, (the probability of) dual joblessness. KID_{ijt} is a set of dummy variables, where *i* indicates the couple, *t* the month, and *j* indicates if the couple has one, two, or three children – either biological, adopted, or stepchildren. $KID4_{it}$ is a dummy variable indicating that the couple has four or more children. The theoretical discussion and Table 7.1 suggested non-linearities in the effects of children on the risk of dual joblessness, and to examine this possibility, parity is measured with dummy variables instead of a linear one. The dummy variable for four or more children was included, because estimates of the higher-level parities were unstable due to low cell numbers (see Lundberg and Rose (2002) for a similar specification). The primary interest is in the first three dummies. The other terms of the model are X_{it}, a set of observed control variables, μ_i, an unobserved couple-level fixed effect, and ε_{it}, a time-varying error term.

The theoretical discussion also suggested that the effects of children vary by the age of the youngest child. Model (1) does not take this into account, but treats the effects of children as a constant shift in the risk of dual joblessness, regardless of the age of the youngest child. This model has a risk of being misspecified. Therefore, the second model is otherwise the same, but includes terms to capture the age of the youngest child:

$$y_{it} = \alpha + \sum_{j=1}^{3} \beta_j KID_{ijt} + \rho KID4_{it} + \gamma \ln(AGE)_{it} + \psi AGE7_{it} + \varphi X_{it} + \mu_i + \varepsilon_{it} \qquad (7.2),$$

where $\ln(AGE)_{it}$ is the logged age of the youngest child (in months, up to 83 months, zero otherwise) of couple *i* at month *t*, and $\psi AGE7_{it}$ is dummy variable, which is unity if the

couple has a school-aged child from seven to eighteen years.[76] I tested extensively for a correct specification using dummy variables and various parametrizations of the age of the youngest child. This specification functioned the best for the widest range of countries.

The interpretation of the β:s is different in Models 7.1 and 7.2. In the former, they show the average effect of childbearing, over the years. In the latter, they give the intercept shift associated with childbirth. This specification can be interpreted as showing the "initial shock" of childbearing on the risk of dual joblessness (β), after which the effect can change as the child becomes older (γ). The specification thus corresponds to the theoretical discussion.

Because the dependent variable is binary, logit models are appropriate methods to estimate the models. However, estimation with ordinary logit regression techniques yields biased estimates if the variables are correlated with the unobserved fixed term μ_i. Such factors may include ability and work/leisure preferences (Hakim, 2000; 2003). As discussed in the third section of Chapter 4, a common strategy in such cases is to estimate fixed effects (FE) logit models which, by time-demeaning the variables in the model, eliminate the effect of the fixed effect and produce estimates free of heterogeneity bias (e.g., Wooldridge, 2002; Halaby, 2004). Some problems remain, however. First, FE models only estimate parameters for time-varying variables. In our case, we can only use fertility events and changes in the age of the youngest child for the estimation. This leads to a loss in N, so FE models are less efficient than their ordinary regression counterparts. This is also the case in the following analyses. Finally, in the presence of a correlation between X_{it} and ε_{it}, FE models continue to yield biased estimates of X_{it}. For example, if couples anticipate dual joblessness, they may reconsider their plans for having children. I include a set of time-varying control variables to reduce this possibility. However, it is possible that anticipation of dual joblessness, or dual joblessness itself, affects fertility, in which case our estimates are biased. If we expect that (anticipation of) dual joblessness reduces or postpones fertility, we could expect that the FE estimates are downwardly biased, that is, that the real effect is higher than estimated.[77] If the errors are

[76] A similar approach was used by Korenman and Neumark (1991) to study the effects of marriage of male wages.

[77] Alternative methods could naturally be used. Angrist and Evans (1998) used the sex mix of the two first children to estimate the local average treatment effect of a third birth on labour supply. While this technique should give unbiased estimates, it is problematic for our use. Firstly, the use of third births naturally limits the scale of effects we want to estimate. Secondly, the instrument they used is rather weak, that is, the sex mix of the first two children has only a weak effect on a third birth. This, together with our limited sample sizes and especially the low propensity of third births in many European countries makes the method of limited use to us.

serially correlated, consistency of the estimates is also likely to suffer. According to Wooldridge (2002: 302), the inconsistency of the FE estimates in cases like ours can diminish as T increases. Since we have up to 84 points in time, the inconsistency of the FE estimates can be small even in the presence of serial correlation of the errors.

7.3.2 Assessing selection bias

Selection bias is assessed by comparing the fixed effects logit estimates and standard logit estimates without control variables, using Model 7.1:

$$\hat{\beta}_{j,simple} - \hat{\beta}_{j,FE} \qquad (7.3),$$

where the first term refers to the estimate from the simple logit model and the latter term refers to the fixed effects logit estimate, at parity level *j*. If the difference is positive, couples with higher risks of dual joblessness are more likely to have *j* children than those with a lower risk of dual joblessness. While this simple comparison tells us nothing of the sources of the selection bias, it describes the relationship between the risk of dual joblessness and fertility. Estimates from Model 7.1 are preferred, because they show the average effect of childbearing on dual joblessness. In practice, however, the assessment of selection effects is similar regardless of the model used.

The standard error of this difference is given by

An alternative would be to use differences-in-differences propensity score matching to estimate the average treatment effect on the treated (Heckman et al., 1997). This method is in many ways similar to the FE approach, although it may be better in producing less biased estimates through careful matching of couples into the treated (had children) and control groups (did not have children). However, identification of the causal effect using this method also relies on observed variables that are used to reduce the bias from time-variant factors. Because the method relies on events, it also leads to a loss of efficiency in the estimates. Additionally, the computation of the propensity scores for each country (or country group, as in Aassve et al., 2005) and for each parity level is a very burdensome task. Instead of fixed effects, one could use first-differencing with lagged values of the endogenous variables as instruments (Wooldridge, 2002: 307-309). The validity of this procedure depends on the sequential exogeneity assumption, where the error term needs to be independent from the previous values of the endogenous variables. Here this condition is unlikely to be satisfied, since the number of previous children indicates human capital losses for the mother. Other instrumental variables (for fixed-effects with instrumental variables, Wooldridge (2002: 310), such as economic conditions before the conception (i.e. 9 months before birth) could be used, assuming that such lagged variables do not affect dual joblessness after contemporary values of these variables are controlled for. Here again, many of the instruments are likely to be weak. Furthermore, the statistical package used (STATA 9.2) does not include fixed-effect logit estimation with instruments, and the estimation is beyond this chapter.

$$\sqrt{\sigma^2_{j,simple} + \sigma^2_{j,FE}} \qquad (7.4),$$

where $\sigma^2_{j,simple}$ is the standard error of the simple logit model estimate and $\sigma^2_{j,FE}$ is the standard error of the fixed effects estimate, at parity level *j*.

7.3.3 Cross-national variation and examination of institutional correlates

As discussed in the theoretical section, I expect that the effects of children on dual joblessness vary across countries. In the theoretical section, I discussed the interaction effects of three key factors, public support for maternal employment, cash benefits for families with children, and employment protection. In the discussion, I hypothesized that some of these factors mainly correlate with the "initial shock" of childbearing, while others correlate with the effect of the age of the youngest child. Thus, the model used to assess these hypotheses is based on Model (7.2):

$$\begin{aligned} y_{ikt} = {} & \alpha + \beta KID_{ikt} + \rho KID4_{ikt} + \sum_{l=1}^{3} \eta INST_{lk} + \sum_{l=1}^{3} \delta KID_{ikt} * INST_{lk} + \\ & \gamma \ln(AGE)_{ikt} + \psi AGE7_{ikt} + \sum_{l=1}^{3} \phi \ln(AGE)_{ikt} * INST_{lk} + \varphi X_{ikt} + \mu_{ik} + \varepsilon_{ikt} \end{aligned} \qquad (7.5).$$

$INST_{lk}$ gives the value of the institution *l* in country *k*. Here, as a matter of simplicity, parity level is specified through two parameters, a linear measure of the number of children if the couple has three children or less (zero otherwise), and dummy variable for four children or more (see Lundberg and Rose (2002) for a similar specification). The institutional measures are interacted only with the linear term: the interactions thus apply to the first three children. As discussed above, the estimates of higher parities were often unstable. I estimate the interactions between the institutions and the age of the youngest child only for the first term, the log of the age of the child (in months), if the child is less than seven years old (the age at which children haven begun their school careers in each country). As in Model (7.2), heterogeneity bias is controlled by estimating a fixed-effects logit model. In this case, since the institutional parameters do not vary across time, we do not get an estimate of η. However, since the interactions between parity, the age of the youngest child, and the institutions do vary across time, we can estimate these interaction effects, and thus examine the institutional mediators of the child effects.

7.3.4 Sample

I use ECHP data from eleven countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Portugal, Spain, and the United Kingdom). I excluded the Greek data due to a zero rate of dual joblessness in couples with four children or more, and the Luxembourgish data lacked crucial variables (health and EPL). I estimated the models separately for each country. The Dutch data do not have information on monthly employment status, and the Swedish data are not panel data.

The age restriction of the sample differs from those in the previous chapters. For this chapter, I included couples in which the husband was aged 48 years or less, and the wife was up to 45 years of age. Women above the age of 45 are unlikely to have children, and on average, the husband was three years older than the wife. Such a restriction should also exclude those who retired. I did not use lower age restrictions. Lower age restrictions reduced the sample size, but did not affect the estimates in an important manner, once the controls were introduced. I excluded students from the sample. Although this restriction reduced the number of children born to dually jobless parents (especially in the Nordic countries), I made it because the labour supplies of such couples undoubtedly differ from the supplies of those who have finished education. With these restrictions, the sample consisted of 17,738 couples. After excluding the cases with missing values, the final sample had 17,652 couples.

Table 7.3. Description of the variables

Variable	Mean
Dual joblessness	0.042
Number of children	1.57
One child	0.288
Two children	0.367
Three children	0.123
Four children or more	0.039
Age of youngest child	6.90
Age of wife	34.95
Bad health husband	0.037
Bad health wife	0.042
Married	0.909
Regional unemployment – men	0.084
Regional unemployment – women	0.138

Source: Eurostat (2003) European Community Household Panel,
waves 1-8, monthly data of couples, husband < 49 years, wife < 46 years, no students.

Again, the couple is the unit of analysis. The dependent variable (dual joblessness) was constructed from the monthly main activity variable, and linked from wave *t+1*. Therefore, the data cover the years 1994 to 2000. The monthly main activity variable does not

differentiate mothers on maternal leave from those caring for their children outside maternal or parental leaves. Therefore, here dual joblessness refers to strictly to couples, in which neither partner takes part in paid work during the month in question.[78]

Household members were defined as children, if they were aged 18 years or less and the biological, step, or adopted children of the husband. Since the "Register file" of the ECHP includes data on the month of birth, parity levels could be measured with monthly accuracy. The same applies to the age of the child, which I measured in months (starting from 1). I discussed the child variables above. The control variables are: age of the wife (since fertility events are assumed to be affected more by her than his age), age of the wife squared, bad health of the husband (dummy), bad health of the wife (dummy), marriage (dummy), the regional male unemployment rate, and the regional female unemployment rate. The control variables were measured annually (and thus do not vary within waves), and likewise linked from wave *t+1*. Educational attainment was not included in the controls, because the data restrictions excluded students and the spouses had thus mainly finished schooling, and educational attainment levels hardly varied across time. Year was excluded, since it is collinear with age and the fixed effects. Descriptive data on the variables is shown in Table 7.3. The data were organized into an unbalanced pooled time-series cross-section with couple-months as the unit of analysis.[79] The maximum number of months is 84.

7.4 Results

7.4.1 The effects of childbearing and age of the youngest child on dual joblessness

Table 7.4 presents the results from the fixed effects logit models. Due to space considerations, I do not present the estimates of the control variables. Models 1 show the effects of parity level from the simple dummy variables specification (Equation 7.1), and Models 2 give the

[78] This obviously poses some interpretational problems, especially if we are interested in the welfare implications of dual joblessness. Maternal leaves have job return guarantees and high replacement rates (see Table A7.1). The picture is even more complicated because mothers (or fathers) can also stay at home on parental leaves, in which case job return guarantees often remain but the replacement rate is much lower. One possibility is to assume that all new mothers are on maternal leave (and thus with an employment contract): thus dual joblessness is impossible during the first weeks or months after childbirth. Although I do not do this, I discuss the issue in the results section. Overall, the question of whether mothers on maternal or parental leave are "really" jobless or not is complex. It is worth noticing that similar questions can be asked of unemployment. A non-ignorable proportion of unemployed workers are in fact re-employed by their former employers, and often the workers can anticipate this (Cahuc and Zylbenberg, 2004).

[79] Fixed effects estimation with unbalanced data may yield biased estimates if attrition correlates with the time-varying errors (Wooldridge, 2002: 578-581). In such a case, the use of a balanced sub-sample would also risk bias due to sample selection. As discussed in Chapter 4, endogenous attrition should not be a major problem in our case.

estimates of childbearing and the natural log of the age of the youngest child from the second specification (Equation 7.2), as discussed above.

In most countries, the effects of parity level from Models 1 are positive. Spain and especially Italy are the clearest exceptions, there the parity level effects are negative. In other words, childbearing seems to decrease the risk of dual joblessness. The positive effect of childbearing on labour supply (of the husband) would thus be stronger than the negative effect (on the labour supply of the wife).[80] The effect of an additional child generally depends on parity level. In Spain the effect decreases more or less linearly, and in Portugal the effect increases linearly. In Denmark, France, and Germany, the estimated effect shows an inverse hump shaped relationship, so that the first and the third children increase the risk of dual joblessness, while the estimated effect of the second child is smaller (and in fact, having the second child seems to decrease the risk, as seen from the comparison $\hat{\beta}_2 - \hat{\beta}_1$). Especially in Denmark, this may be due to small sample size. In Ireland, Italy, and the United Kingdom, the additional effect of the third child is smaller than that of the first two children. In Belgium and Finland, on the other hand, the additional effect of the third child is bigger than the marginal effects of the first two children. In Austria, the first child has a strong effect, and the estimates of the second and third children are slightly smaller. The estimates from the first models thus do not show unquestionable support for the hypothesis that the first child or first two children have a stronger marginal effect than the subsequent ones.

The discussion so far has focused on the effects of the three first parity levels, for the reasons stated above. In Finland and Belgium, the estimates for the highest parity level, four children or more, from Models 1 are clearly higher than the other estimates. In most other countries, the estimate is also higher, but in line with the other estimates and their marginal effects.

[80] As discussed in some more detail in the last section of the chapter, this result may also reflect unobserved factors not captured by the model.

Table 7.4. Effects of an additional child and the age of the youngest child on the couple's risk of dual joblessness (fixed effects logit models)

	Denmark		Belgium		France		Ireland		Italy		Spain	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
1 child[1]	1.444**	2.697**	1.045**	1.623**	0.383*	1.299**	0.755*	1.335**	-0.462**	-0.359**	-0.043	0.303*
	(0.401)	(0.474)	(0.296)	(0.335)	(0.155)	(0.192)	(0.338)	(0.362)	(0.101)	(0.144)	(0.089)	(0.118)
2 children[1]	-0.761	0.312	1.618**	2.032**	0.280	1.077**	1.494**	1.931**	-1.028**	-1.034**	-0.188†	0.102
	(0.749)	(0.783)	(0.401)	(0.410)	(0.197)	(0.220)	(0.395)	(0.406)	(0.139)	(0.161)	(0.113)	(0.128)
3 children[1]	1.970†	1.512	3.133**	3.065**	1.038**	1.791**	2.097**	2.202**	-1.043**	-1.024**	-0.477**	-0.356*
	(1.026)	(1.100)	(0.551)	(0.575)	(0.235)	(0.251)	(0.431)	(0.438)	(0.190)	(0.203)	(0.156)	(0.169)
4+ children[1]	1.135	0.552	5.149**	4.797**	2.072**	2.814**	2.009**	2.024**	-0.678**	-0.464†	-0.631**	-0.422†
	(1.772)	(2.219)	(0.892)	(0.924)	(0.317)	(0.334)	(0.480)	(0.483)	(0.247)	(0.256)	(0.224)	(0.234)
Age young kid, logged (0-7 yrs.)		-0.648**		-0.316**		-0.344**		-0.222**		-0.026		-0.121**
		(0.135)		(0.083)		(0.045)		(0.052)		(0.037)		(0.033)
Young. Kid 7-18 yrs.		-1.903		-0.711†		-1.576**		-1.157**		-0.093		-0.632**
		(0.056)		(0.429)		(0.214)		(0.254)		(0.167)		(0.133)
No. obs.	2295	2295	4178	4178	11727	11727	9706	9706	17951	17951	33405	33405
No. couples	56	56	73	73	218	218	163	163	290	290	562	562
LL	-515.925	-495.023	-1379.700	-1361.644	-4319.618	-4178.518	-3713.793	-3647.100	-7518.823	-7419.417	-13269.71	-13056.59
X^2	205.72	233.61	181.48	199.50	199.23	269.29	1000.53	1009.72	316.22	328.82	1122.49	1116.15

	Portugal		Finland		Germany		United Kingdom		Austria	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
1 child[1]	0.073	0.815**	-0.036	1.545**	1.152**	1.090**	1.449**	1.865**	1.888**	2.644**
	(0.223)	(0.302)	(0.382)	(0.452)	(0.180)	(0.315)	(0.187)	(0.226)	(0.434)	(0.473)
2 children[1]	0.291	0.839**	0.074	1.251*	0.699*	0.554	2.947**	3.484**	1.788**	2.474**
	(0.275)	(0.325)	(0.458)	(0.488)	(0.287)	(0.374)	(0.237)	(0.263)	(0.531)	(0.556)
3 children[1]	0.811*	1.245**	0.574	1.098†	1.220**	1.055**	2.852**	3.376**	1.627**	2.467**
	(0.363)	(0.379)	(0.616)	(0.642)	(0.340)	(0.396)	(0.299)	(0.317)	(0.590)	(0.619)
4+ children[1]	0.986*	1.233**	3.654**	3.911**	1.528**	1.386**	3.088**	3.569**	2.761**	3.295***
	(0.441)	(0.453)	(1.290)	(1.402)	(0.400)	(0.429)	(0.368)	(0.387)	(0.696)	(0.712)
Age young kid, logged (0-7 yrs.)		-0.141*		-0.797**		0.061		-0.200**		-0.253**
		(0.063)		(0.098)		(0.075)		(0.052)		(0.081)
Young. Kid 7-18 yrs.		-1.217**		-2.803**		-0.042		0.488†		-2.433**
		(0.287)		(0.526)		(0.322)		(0.272)		(0.419)
No. obs.	7180	7180	2599	2599	8928	8928	8827	8827	4802	4802
No. couples	122	122	79	79	179	179	147	147	88	88
LL	-2500.99	-2463.15	-863.629	-800.814	-3144.611	-3135.610	-2772.794	-2642.235	-1515.629	-1458.287
X^2	89.24	106.53	202.54	277.22	176.37	183.33	616.67	636.84	88.38	127.20

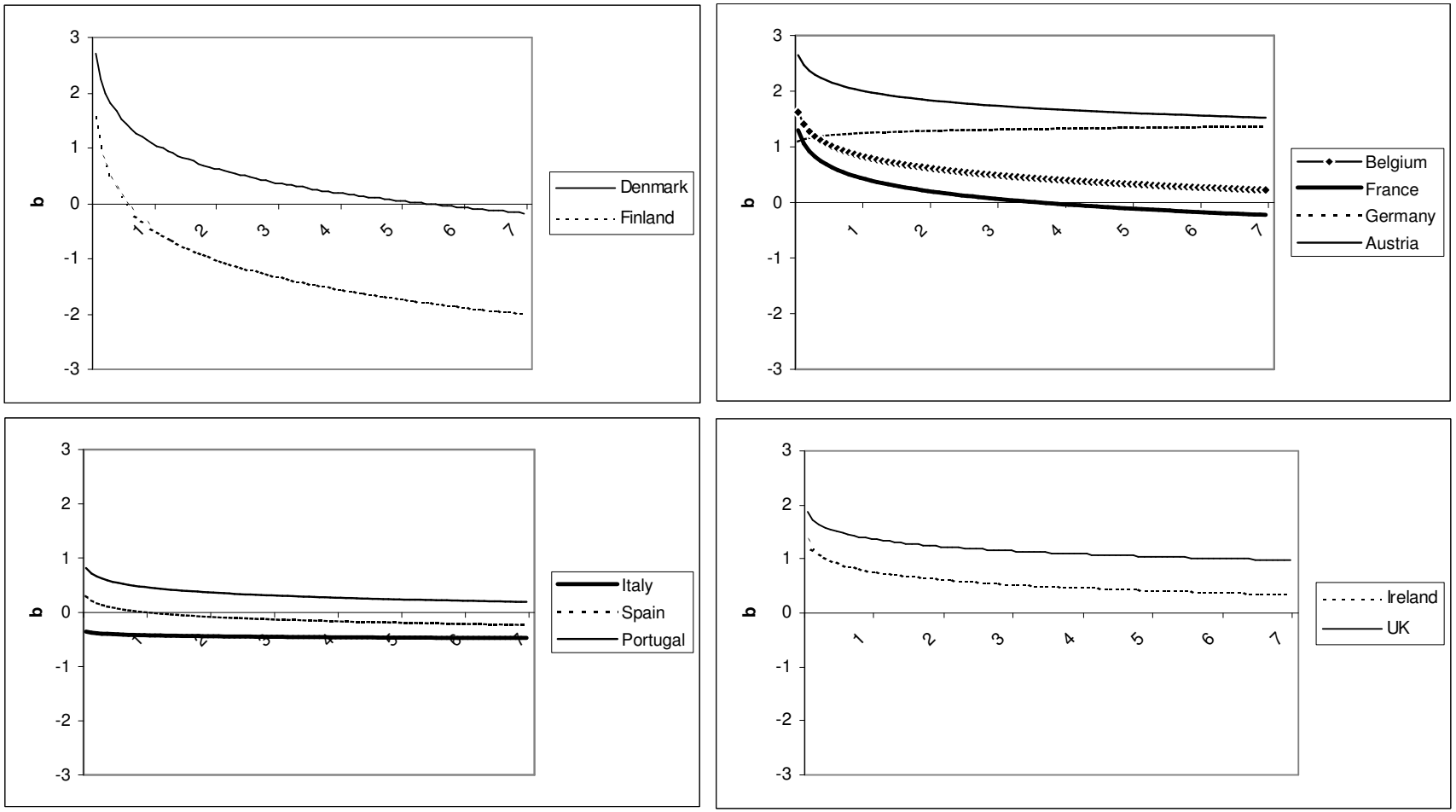
Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband < 49 years, wife < 46 years, no students.

Notes: Controls (not shown): age of wife (linear and squared), bad health of husband, bad health of wife, married, regional male unemployment, regional female unemployment. [1] Reference group: no children; † p<0.10; * p<0.05; ** p<0.01

Models 2 present a somewhat different picture. With the exception of Germany, the estimates of the first child–dummies are more positive than those of Models 1. In most countries, this is also true of the estimates of the higher parity levels. In some countries, the differences are rather striking. In Finland, the estimates of the three first parities from Model 1 are rather small and are not significant. However, those from Model 2 are strong and clearly significant. Recall that the estimates from Models 1 give the average effect of childbearing, while the estimates from Models 2 show the intercept shift – the "initial shock" – of childbearing on dual joblessness. The higher estimates from the latter models suggest that the effect becomes smaller as the child ages. The estimate of the natural logarithm of the age of the youngest child confirms this expectation. The estimate can be read as telling how much the initial effect decreases with a one month increase in the age of the youngest child. With the exceptions of Italy and Germany, the effect of the age of the youngest child is negative and significant. In Italy and Germany, the effects are small and not significant. Thus the "initial shock" hypothesis receives general support.

I examine the estimates from Models 2 more closely in Figures 7.1a to 7.1d. The figures show the change in the effect of the first child ($\hat{\beta}_1$) according to the age of the child, until the child is seven years old. Similar figures can be made for other parity levels by shifting the estimated intercept ($\hat{\beta}_j$) accordingly and using the estimate of the age of the youngest child.

Figures 7.1a to 7.1d. Estimated changes in the effect of the first child, by age of the child. Child aged 0-7 years.



Note: Calculated with $\hat{\beta} - n\hat{\gamma}$ from Models 2 I Table 3 (see Equation 2).

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband < 49 years, wife < 46 years, no students.

As can be seen from Models 2, the effect of childbearing decreases in most countries along with the age of the youngest child. Following the logarithmic specification of the effect of the youngest child, the parity level effect decreases most sharply during the first year of the child.[81] The fall is most notable in Finland and Denmark. In Finland, having the first child increases the risk of dual joblessness temporarily, but the estimated positive effect disappears and becomes negative already during the first year of the child. The effect of older children is clearly negative. In Denmark the estimated decline is smaller, but also there the initially positive effect becomes small by the third year of the child. The effect is smaller or close to zero after the first years also in France and Belgium. The recovery is slower in Austria, the UK, and Ireland. Due to the higher intercepts, the effect remains positive and strong in the first two countries, even at older ages of the child.[82] The decrease in the childbearing effect is even smaller in Spain and Portugal, and relatively flat in Germany and Italy. In Southern Europe, the small (and negative in Italy) intercept effect means that the effect remains small (or turns negative, as in Spain) even as the child gets older.

According to these estimates, the effect of childbearing on dual joblessness is not just an artefact of a higher risk period during maternity leaves. The duration of paid maternity leaves varies from 14 weeks in Germany and Ireland to 52 weeks in Finland (see Table A7.1 in the appendix). In most countries, the effect remains positive even after the expiration time of these leaves. The main exception is Finland, where the sharp increase in dual joblessness risk during the first year of the child can indeed be a result of the long maternal leaves.

7.4.2 Selection effects

The results from the fixed-effects logit analyses support the hypothesis that children affect the risk of dual joblessness. However, it is also interesting to examine the role of selection processes according to dual joblessness risk. Do couples with higher risks of dual joblessness have (more) children? Following the discussion in the methods section of the chapter, Figures 7.2a to 7.2k plot the logit estimates without controls and the fixed effects logit estimates of Model 1. The solid line shows the fixed effects logit estimates, while the dashed line shows the simple logit ones. If the fixed effects logit estimates are above the simple logit ones, couples with higher dual joblessness risks have a lower likelihood of having the number of

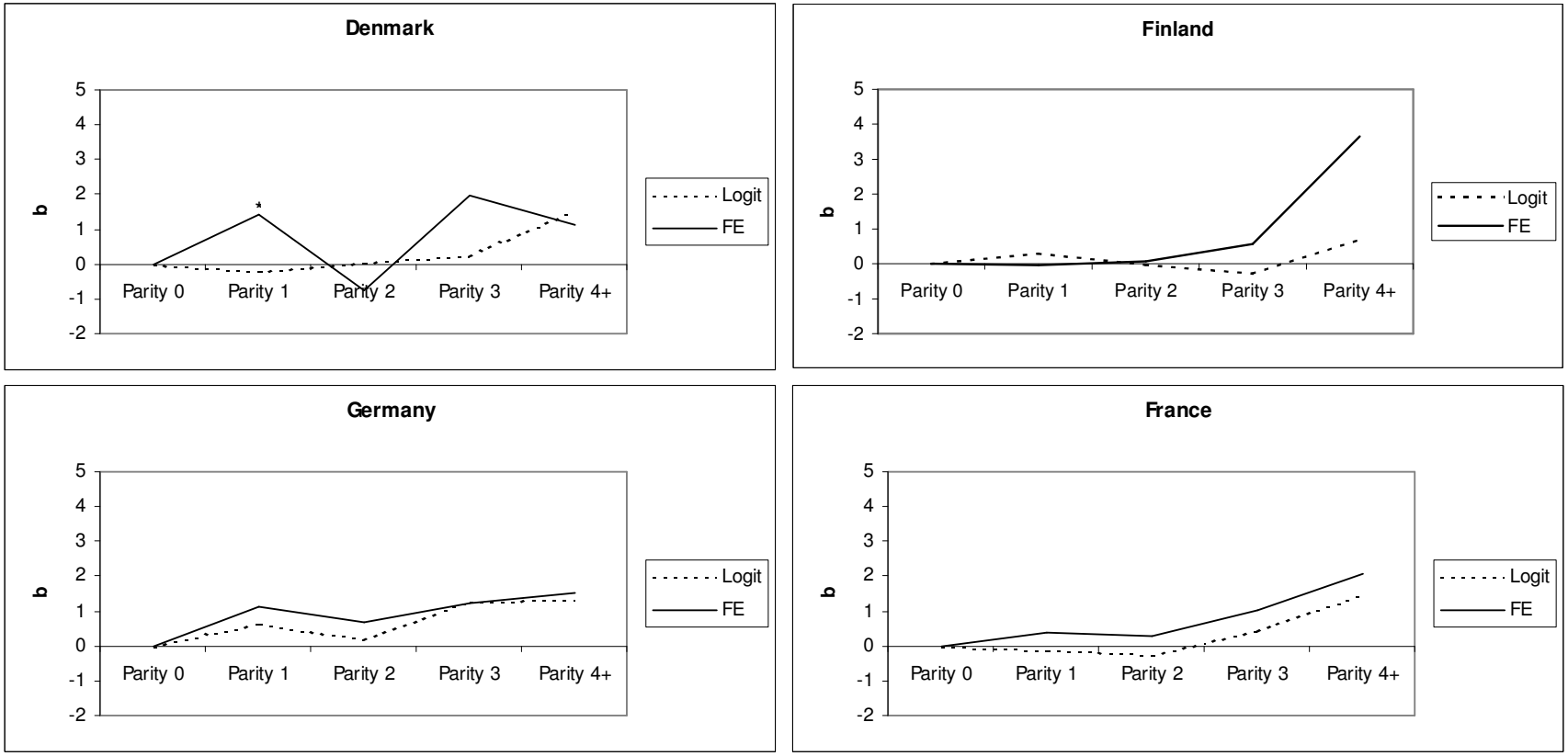
[81] As discussed above, the logarithmic specification fitted the data the best for the widest number of countries.
[82] Note, however, that according to the Austrian Model 2 in Table 7.4, the effect of children of school age and their later teens is strong enough to bring the estimate close to zero.

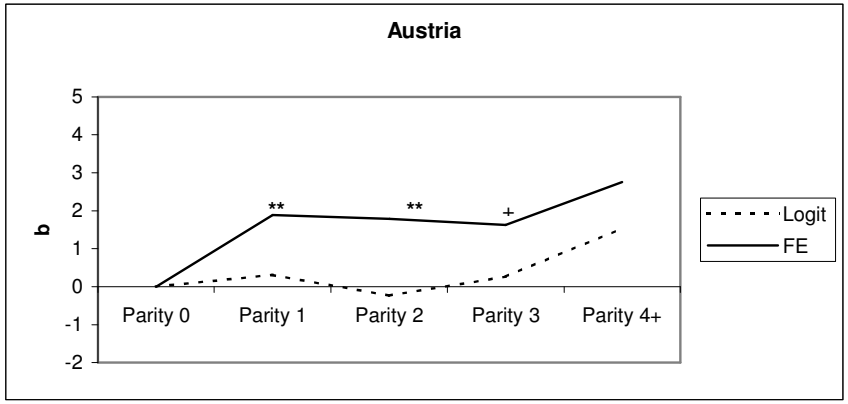
children in question; if the fixed effects line is below the simple logit line, the situation is the opposite. Statistically significant differences are shown with the usual signs and are placed next to the fixed effects estimates.

In most countries, the selection effects are small and not significant at parities up to three children.[83] For the higher parities we can often see a wider gap between the estimates, which, however, is never significant due to the small number of cases. At the lower parities, the fixed effects estimates are higher (and significant) than the logit ones in Belgium and Austria. In the United Kingdom, the difference is significant (in the same direction) at parities two and three. In these countries, therefore, couples with high risks of dual joblessness seem to have less children, or at least postpone childbearing. Italy, and at parity three, Spain, are the only exceptions, where the opposite seems to be true. These are also the countries, in which the effects of childbearing on dual joblessness are negative. Even though many of the differences are small and not statistically significant, a comparison of the estimates from the FE models and the logit models seems to offer some preliminary evidence that the lower dual joblessness rates among couples with two children (Table 7.2) is due to selectivity: those couples have lower risks of dual joblessness to begin with. In most countries, there is less negative selection to parity three, and in Italy and Spain, more positive selection to this parity. These results are in line with the discussion in the theoretical section.

[83] This may be due to the inefficiency of the FE estimates.

Figures 7.2a to 7.2k. Assessing selection bias: a comparison between logit models without controls and fixed effects logit models (Models 1, Table 3).




Austria
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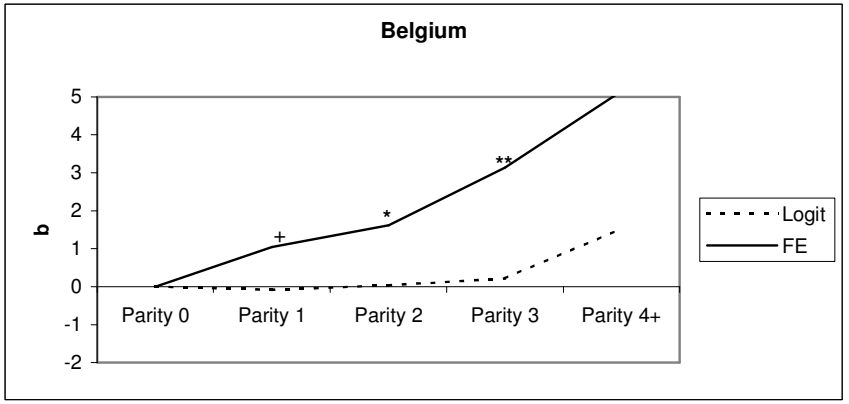
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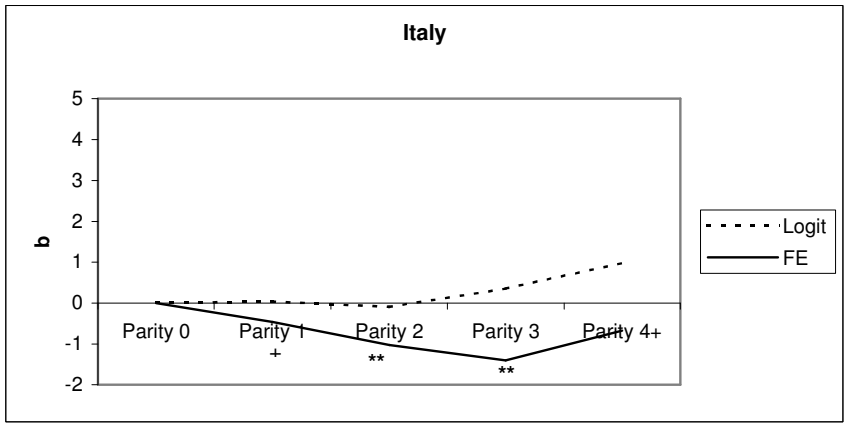
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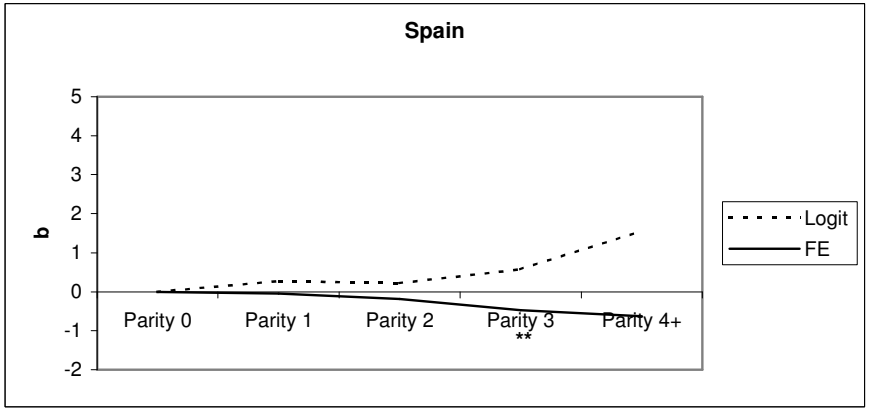
Spain
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Logit
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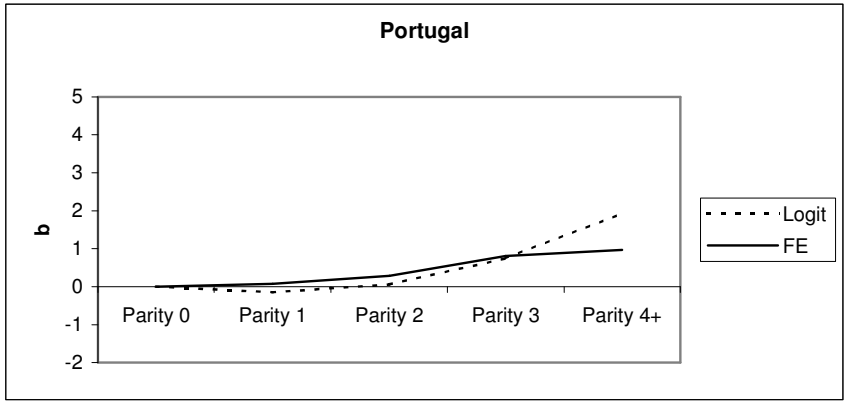
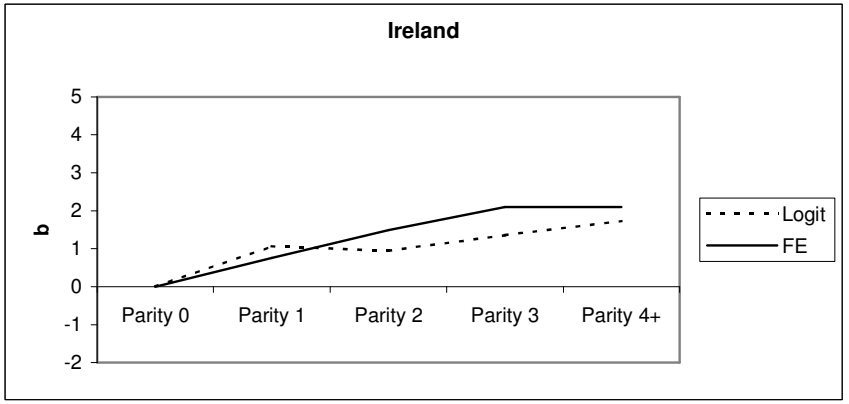
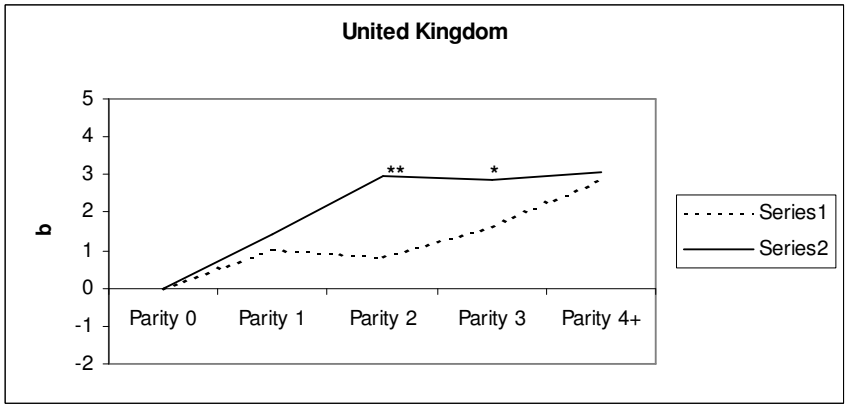






Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband < 49 years, wife < 46 years, no students.
† p<0.10; * p<0.05; ** p<0.01. The significance levels refer to the difference between the estimates.

7.4.3 Cross-national heterogeneity: child care, benefits, and employment protection

The estimates from Table 7.4 show rather notable cross-national variation. Both the "initial shock" and the effect of the age of the youngest child vary across the eleven countries. A natural follow-up question concerns the source of this variation. Following the discussion in the theoretical section, I here describe the relationship between the two child effects and three key institutional characteristics (support for maternal employment, financial support targeted at reducing childbearing costs, and employment protection). I measured support for maternal employment (of mothers with children under school age) using an updated index in the footsteps of Gornick et al. (1997). The rationale of the original index was to combine various institutional features that can enforce the employment of mothers with small children into a single measure. The index focuses on parental leaves and childcare policies. I discuss the updated and modified index and the measures used in it in the appendix to the chapter. I used an index developed by Bradshaw and Finch (2002: Table 11.2) to measure the financial support targeted at families with children. The index combines the different direct benefits, tax allowances, exemptions from charges, subsidies and services-in-kind that are targeted at reducing the costs of children. The particular measure used here shows the average value of the child support package as percentage of average earnings. The EPL index comes from the OECD (2004). Table 7.5 displays the country values.

Table 7.5. Support for the employment of mothers, value of child benefit packages, and employment protection

	Support for employment of mothers [1]	Child family benefit [2]	Employment protection index [3]
Denmark	2.64	11	1.2
Finland	2.83	11	2
Austria	1.91	21	2.2
Germany	1.77	9	2.5
France	2.75	12	3
Belgium	2.78	10	2.1
Italy	1.94	5	3.3
Portugal	1.48	7	3.7
Spain	2.11	2	3.1
Ireland	1.10	19	0.9
United Kingdom	1.65	15	0.5

[1] See appendix for details.
[2] Value of the financial support package targeted at families with children as % of average earnings. *Source*: Bradshaw and Finch (2002: Table 11.2).
[3] *Source*: OECD (2004).

The model estimated is a fixed-effects logit transformation of Equation (7.5). In the theoretical section, I expected that especially maternal employment supporting policies, but also child benefit packages interact mainly with the effect of the age of the youngest child. I expect EPL to correlate with the "initial shock" – that is, the intercept shift – of childbearing, but also with the age of the youngest child –component. I show the results of the estimation in Table 7.6.

The results correspond rather well with the theoretical expectations. Strict EPL decreases the "initial shock", but flattens the slope of the age of child –component. A possible scenario – as discussed above – is that strict EPL first protects the male breadwinner against joblessness. However, by making employment entry of mothers more difficult, strict EPL can prolong the duration of the male breadwinner status, and thus increase the period in which couples are at higher risk of dual joblessness.

Table 7.6. Institutional correlates of the effects of children on dual joblessness

	b	*s.e.*
Child variables		
Number of children (if three or less)	0.634	(0.151) **
Four or more children	1.027	(0.110) **
Age of the youngest child, logged (if less than seven yrs.)	0.114	(0.065)
Age of the youngest child 7-18 years old	-0.438	(0.055) **
Interactions with institutions		
EPL * number of children (<=3)	-0.117	(0.033) **
EPL * logged age of child (<7 yrs)	0.057	(0.015) **
Benefits * number of children (<=3)	0.000	(0.005)
Benefits * logged age of child (<7 yrs)	0.001	(0.002)
Maternal support * number of children (<=3)	-0.076	(0.042) †
Maternal support * logged age of child (<7 yrs)	-0.182	(0.018) **
Control variables		
Age of mother	-0.325	(0.036) **
Age of mother, squared	0.003	(0.001) **
Bad health of husband	0.558	(0.044) **
Bad health of wife	0.144	(0.049) **
Married	0.545	(0.089) **
Regional male unemployment	0.104	(0.005) **
Regional female unemployment	-0.004	(0.004)
N observations		109,613
N couples		1969
LL		-41529.765
X^2		2745.27

Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, husband < 49 years, wife < 46 years, no students.

As expected, more support for maternal employment is associated with a faster "recovery rate" after the initial shock of childbearing: mothers in countries with more support for their employment can return faster to employment after childbirth, and thus decrease the couple's risk of experiencing dual joblessness. The estimate for the interaction between support for maternal employment and the initial shock effect is also negative, but only weakly significant. As expected, the interaction between financial support for families with children and the initial shock is not significant. However, unlike expected, neither is the interaction between financial support and the age of the youngest child. Although a causal interpretation cannot be made, policies supporting the employment of mothers seem to be more important than the financial disincentives created by family benefits.

7.5 Conclusions and discussion

In this chapter, I analysed how childbearing affects the risk of dual joblessness. There is a huge literature on the motherhood effects on employment, hours worked, and wages, and a smaller but growing corpus of literature on the effects of fatherhood on labour market outcomes. Many welfare influences of childbearing function, however, through its consequences on the household as an economic unit. Furthermore, the employment status of both parents affects the economic welfare of children (in case of children living with two parents that constitute the majority in Europe). However, no previous studies have explicitly focused on the link between children and dual joblessness.

The results reflect both bad news and more positive findings. The first negative conclusion is that on average, childbearing increases the risk of dual joblessness in most of the eleven European countries covered. Spain and Italy were the only countries in which childbearing seemed to decrease dual joblessness. The average effect is often curvilinear, but I did not find any patterns from which any generalisations could be made. This result can be a part of the explanation why childbearing has negative economic welfare implications in Europe (at least in the short term) (Aassve et al., 2005). One positive result is that this effect is – in most countries – a short-term one. An additional child generally implies a sharp initial increase in dual joblessness risks, which then gradually declines. In some countries, the decline is steep so that children beyond their first years actually decrease dual joblessness. One could ask whether these findings reflect a high-risk period only during the well-paid maternity leave period. However, with the possible exception of Finland, this does not seem to be the case. Instead, the positive effect of childbearing on dual joblessness lasts beyond the maternity

leave period. From the point of view of children's welfare, dual joblessness and poverty at an early stage of life can have detrimental longterm consequences (Ermisch et al., 2004; Heckman, 2006). Therefore, the combination of a large "initial shock" effect and a "slow recovery" is worst possible combination.

These effects vary across the eleven countries, and correlate with the tightness of employment protection legislation (EPL) and the institutional support for maternal employment. A possible explanation is that these policies shape the childbearing effects by affecting the specialization of husbands and wives and the likelihood of male breadwinning. Couples generally increase their specialization around childbirth: the male breadwinner arrangement is then dominant. As seen in Chapter 5, male breadwinner couples have a higher risk of dual joblessness than dually working ones. Therefore, policies that promote a dual earner pattern after childbirth can decrease the effects of childbearing.

However, institutions protecting the male breadwinner from joblessness can also reduce the effect of childbearing on dual joblessness. EPL is such an institution, which can promote the employment of male breadwinners. On the other hand, mothers wishing to return to employment in countries with tight EPL may have a harder time in finding a job, which increases the duration of the riskier male breadwinning arrangement.[84] Thus, tight EPL both reduces and increases the effect of childbearing on dual joblessness. Support for maternal employment, on the other hand, shortens the period in which childbearing increases the risk of dual joblessness by supporting the dual earner model. Therefore, in countries like Finland and Denmark, which have strong institutional support for maternal employment and modest EPL, childbearing induces a sharp "initial shock" effect on dual joblessness, which then declines rapidly. In Southern European countries, where EPL is strict, but support for maternal employment weaker, there is a smaller "initial shock" effect, but less change in the effect as the child becomes older. Still in other countries, such as the United Kingdom and Ireland, where EPL is lax and support for maternal employment at a rather low level, the initial effect can be strong, and recovery slow. Such a combination of institutions can have the worst possible outcomes for children's welfare. I also tested for correlations between the generosity of financial benefits targeted at families with children and the effects of children. Although

[84] Results from Chapter 5 however suggest that stricter EPL can be associated is faster exit rates from dual joblessness.

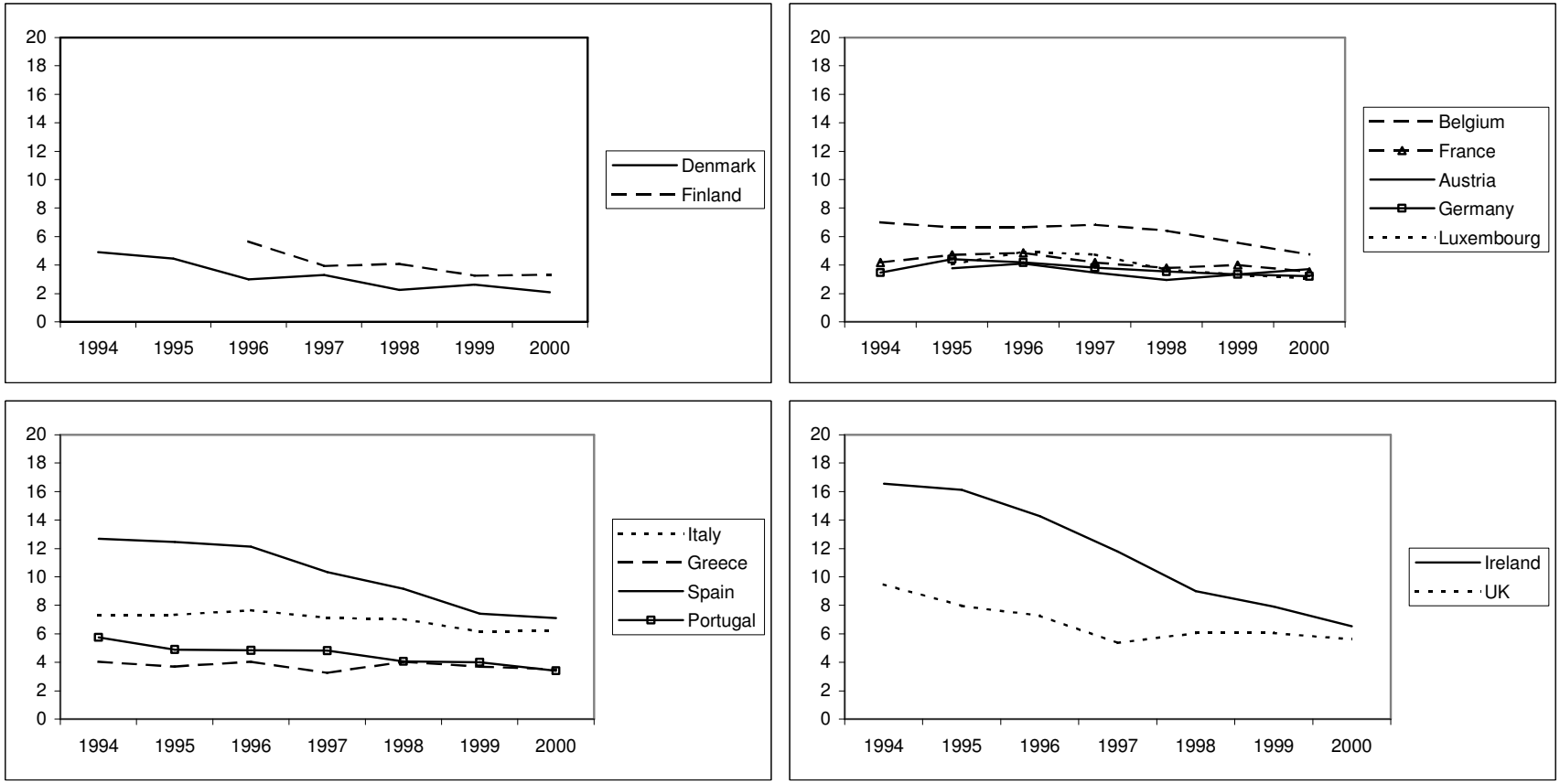
one would expect them to reduce the labour supply of parents, the results did not support this expectation.

The chapter also presented some descriptive results on selection issues. I found no evidence of selective childbearing patterns according to dual joblessness risks in five of the countries. In four, the results pointed to negative selection: that is, couples with higher risks of dual joblessness have less children, or at least postpone having children. This can be seen as a positive finding. In Italy and Spain – the two countries in which the effects of childbearing on dual joblessness were generally negative, the opposite was true. In general, thus, there seemed to be a negative correlation between the effects of childbearing and the selection into parity levels according to dual joblessness risks. Here it is worth recalling that the fixed effects logit models do not control for all unobserved factors. Therefore, the result showing that childbearing reduces the initial shock effect on dual joblessness in Italy can also reflect fertility decisions that take into account employment security and the risk of dual joblessness. Couples may decide to have children only when they have sufficient financial security.

These descriptive results demonstrate preliminary evidence on the effects of childbearing on dual joblessness and the institutional contexts mediating these effects, and they provide the first empirical results on the topic. Although selection into parenthood according to dual joblessness risk factors were given only secondary attention in this paper, an interesting line of further research would be to focus on them – and their institutional underpinnings – more carefully. For example, the results suggested that selection effects may differ according to parity level. After all, both the labour market and demographic behaviour of parents determine the socio-economic circumstances in which children live (cf. Macunovich and Easterlin, 1990).

Appendix to Chapter 7

Figures A7.1a to A7.1d. Trends in children's exposure to dually jobless parenthood



Notes: % of children living with two jobless (step)parents, of children living with two (step)parents.
Source: Eurostat (2003) European Community Household Panel, waves 1-8, monthly data of couples, father < 49 years, mother < 46 years, neither parent a student.

The index for support of the employment of mothers

The rationale behind Gornick et al.'s (1997) original index was to construct a measure that captures the various public policies that can affect the employment of mothers of children under school age (cf. OECD, 2001 for a different indexation that includes firm's policies). Several policies can affect the employment of mothers and they can be substitutes to each other. This was the rationale for aggregating the different measures to a common index.

I constructed a similar index to the one by Gornick and colleagues with updated information. There are some differences in the original index. First, due to data availability, I used the starting age of compulsory schooling instead of the share of five-year olds enrolled in preschool. Second, I estimated the importance of tax relief for childcare and childcare guarantees on a 0-1 scale with information from Bettio and Prechal (1998). Third, I measured paternity leave in working days (divided by 10, the maximum). Fourth, I included a measure of the costs of childcare into the index. And fifth, the final scale of the index is different to the original one. Table A7.1 shows the country values of the variables.

Table A7.1. Country values of the measures used in the construction of the maternal employment support index.

	DK	FIN	AT	BE	FR	D	IRL	UK	IT	PRT	SP
Legislated job protection	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Coverage of mat. leave (% employed women)	100	100	75	100	100	100	100	100	100	100	100
Paid maternity leave in weeks	30	52	16	15	16	14	14	18	21.5	24.3	16
Replacement rate of maternity leave	100	70	100	78	84	100	70	50	80	100	100
Paid paternity leave in working days	10	10	0	3	3	0	0	0	0	0	2
Tax relief for childcare	0	0.5	0.5	1	1	0.25	0	0.25	0	0	0.25
Guaranteed childcare for 0-2 years old children	1	1	0.5	0.75	1	0.25	0.25	0.5	0.25	0.25	0.25
Guaranteed childcare for 3 years old to school aged children	1	1	0.5	1	1	0.5	0.25	0.5	1	0.5	0.5
Cost of childcare	8	8	13	16	34	12	30	25	12	19	6
% children in childcare (<3 yrs)	58	48	3	30	29	5	2	2	6	12	5
% of children in childcare (3-school age)	83	73	80	97	99	85	55	60	95	48	84
Compulsory school starting age	7	7	6	6	6	6	6	5	6	6	6

Sources: Legislated job protection (Bettio and Prechal, 1998; MISSOC, various years); Coverage of maternity leave (Bettio and Prechal, 1998); Duration of maternity leave (OECD, 2001); Replacement rate (Kamerman, 2000). In Belgium, the replacement rate varies between 75 and 82 percent, in the UK it decreases from 90 percent during the first six weeks to a low flat rate during the twelve next weeks and unpaid for the rest; Paternity leave (Kamerman, 2000); Tax reliefs are based on evaluations of the importance of the policy based on

Bettio and Prechal (1998); Guarantee of child care, based on evaluations of the importance of the policy based on Bettio and Prechal (1998); Cost of childcare: gross amounts charged from parents (Immervol and Barber ,2005: Figure 2.2); Enrolment rates in public childcare (Kamerman, 2000); Compulsory school starting age (Kamerman, 2000).

I constructed the index from these values with the following formula.

Support for the employment of mothers with children under the age of 7:

0.5{[0.5*(job protection + (coverage of maternity leaves/100)*(duration of paid maternity leave/52) + wage replacement rate + coverage of maternity leaves/100 + 0.5*paternity benefits/10 + 0.5*tax relief for child care + guaranteed child care coverage for kid 0 to 2 years + percent kids (0 to 2 years) in childcare – cost of childcare/100)] + (0.5*tax relief for childcare + guaranteed childcare coverage (3 to school age) + percent kids (3 to school age) in childcare + 0.25*(7 – school starting age) – cost of childcare/100}*.

8 CONCLUSIONS

8.1 Introduction

In this dissertation, I analysed the simultaneous joblessness of both partners of a couple, dual joblessness, in Europe. The poor employment performance of many European economies in the 1990s put strain not only on the individuals who lacked a job, but often also on their families. The family, therefore, is natural context in which to analyse unemployment, joblessness, and its consequences (Morris, 1990). An important motivation to analyse the distribution of work and worklessness at the household level is the finding that individual and household level indicators of the distribution of work can send conflicting signals (Gregg and Wadsworth, 2001: 778). Good labour market performance in terms of job creation and reductions in unemployment may go hand in hand with an uneven distribution of work between households. Indeed, this is precisely what many studies have found: some households have many working members, whereas others have none (e.g., OECD, 1998; Gregg and Wadsworth, 2001). This polarisation in employment is a bigger problem in some countries than in others (OECD, 1998; Gregg and Wadsworth, 2001; 2003; Iacovou, 2001; Gregg et al., 2004). Quite worryingly, polarisation has increased in several countries, contributing to the growth in income inequality (Ercolani and Jenkins, 1998; Gregg and Wadsworth, 2001; 2003; Breen and Salazar, 2004).

Three main factors motivated the choice to focus on dually jobless couples. Dual worklessnes implies a dramatic increase in poverty risks (Iacovou, 2001; Figure 2.1). There has been a lot of interest in the employment behaviour and problems of single parents. At the same time, less research has been done on joblessness of couples. However, a married (or increasingly, cohabiting) couple remains the norm of a European family, and most Europeans continue to live in households formed around couples. Therefore, dual joblessness can touch more people than joblessness in single-adult households. A focus on couples instead of all households also made analytical sense, because partners behave differently than single men and women. Finally, I analysed coupled joblessness instead of coupled unemployment, because many of the negative consequences depend more on whether or not at least the other partner is employed than their search for work if jobless.

Previous studies have approached dual joblessness mainly by analysing the polarisation of employment across couples. The motivating puzzle for these analyses has often been the

finding that the partners of the unemployed (or non-employed) are less likely to work than those with working spouses. Scholars have given particular interest to the question whether wives increase their labour supply as a response to their husband's unemployment. While some studies have provided a confirming answer, mechanisms working in the opposite direction often seem to be stronger. I reviewed previous results and their explanations in the second section of Chapter 1 and in the third section of Chapter 3.

My specific aim was to contribute to the understanding of European dual joblessness by focusing on three areas, which I saw as deserving more attention. I recognized the lack of dynamic analyses of dual joblessness as an important gap in the literature. Furthermore, there is only one other study on the dynamics of dual joblessness, which has used comparative data (McGinnity, 2002). There was also a lack of an understanding of comparative differences in dual joblessness more generally, even though these differences are clear enough to warrant attention. This lack was the motivation to compare thirteen European countries, namely Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, and the United Kingdom. The data available, the European Community Household Panel (ECHP), determined the choice of the countries. I discussed the data and the reasons for focusing on these countries in the second section of Chapter 4, and the main features and experiences of the countries in the 1990s in the third section of Chapter 2.

Dynamic analysis can be used to decompose country differences in the rates of dual joblessness (or unemployment or poverty) into inflows and outflows from this status. The dynamics are also interesting as such. These were the motivations of Chapter 5, where I analysed the dynamic roots of the European variation in dual joblessness rates, and sources of the variation in the flows into and out of dual joblessness.

One of the findings of Chapter 5 was that jobless wives with jobless husbands rarely enter employment before their husband. I found this result for all the thirteen countries. This gave the impulse for Chapter 6. Some previous studies have found that the wives of unemployed men may be reluctant to become the single breadwinner of the family because of cultural codes that govern the household division of work. This "macho-effect" can provide an explanation for the puzzle of the low employment rates of these women. Although discussed in some studies that have used quantitative data, none have explicitly tested this hypothesis. A test of this hypothesis was the leading motivation for Chapter 6.

Dual joblessness does not affect couples only; it affects their children as well. Several studies have analysed child poverty and its determinants. Household joblessness is a particularly important factor. However, none of the studies on coupled joblessness have focused on the link between children and coupled joblessness. In Chapter 7, I sought an answer to the question of whether childbearing and the age of the youngest child affect dual joblessness. I also analysed sources of the cross-national variation in these effects.

I present the main findings of these empirical chapters in the next section. In the third section, I discuss some implications of these findings for research and for policy. In the fourth and last section, I suggest some lines for future research.

8.2 Main findings

I displayed the first empirical findings in the fourth section of Chapter 4. The rates of dual joblessness vary widely across Europe. The average rates of dual joblessness over the period (1994-2000) ranged from approximately 2 percent in Denmark to above 10 percent in Ireland. The rates were not stable through the period, however. In Ireland, the dual joblessness rate halved during the period, from approximately 13 percent in 1995 to 6 percent in 2000. The rate decreased rapidly also in Spain. Nor did dual joblessness hit everyone equally. Partners with low levels of education or health problems were at particular risk. In some countries, most notably in Belgium and Italy, dual joblessness was a particular problem among older couples (in this case, where the husband was aged 25 to 55). The problem of dual joblessness became even more pronounced when the time-frame was included to cover all seven years: one fourth of Spanish couples experienced dual joblessness during the period, and rate was approximately 10 percent even in Denmark.

The primary aim of Chapter 5 was to analyse the dynamic roots of the European variation in dual joblessness. The decomposition of rates into inflows and outflows revealed that there was cross-national variation in both flows, and both contributed to the variation in dual joblessness rates. However, the variation in inflows – that is, dual joblessness incidence – was more important. In further decompositions, I found that the European differences in breadwinner models were of central importance in explaining the variation in dual joblessness incidence. Dual earner couples had a lower incidence of dual joblessness than male breadwinner couples. These two family provision forms represent the majority of European couples. In some

countries, particularly in the two Nordic countries, dual employment is the norm. In others, and especially in Greece, Italy, Ireland, Luxembourg, and Spain, male breadwinning was common in the 1990s. These differences were important sources for the variation in rates of dual joblessness incidence. Since the spread of the dual earner model depends primarily on female employment levels, we can conclude that policies promoting female employment are also an insurance against dual joblessness (Esping-Andersen, 1999; Haataja, 2000).

However, the full story is more complex. Secure employment of the male breadwinner can reduce the risk of dual joblessness considerably. This has been a motivating factor behind the strict employment protection laws in the Southern countries, but also in many Continental countries (Esping-Andersen, 1996). Employment security came up as a factor that decreased the jobless risk of male breadwinners in the empirical analyses. Employment security can be provided by permanent and well-protected jobs. The employment security enjoyed by male breadwinners was a crucial reason why dual joblessness risks were low in Luxembourg, a country that had a strong male breadwinner model. However, many countries have experienced increasing employment insecurity (DiPrete et al., 2006). Economic restructuring and the increases in temporary employment have made male breadwinners increasingly vulnerable. Male breadwinning in times of employment insecurity makes for a risky combination. This combination contributed to the very high dual joblessness incidence rates in Spain. Finally, a male breadwinner's risk of losing his job continues to depend on such structural factors as his occupational and the educational levels, health, and the characteristics of the establishment he works in. Therefore, at least some male breadwinners and their families remain at a low risk of dual joblessness. The event-history models used to analyse the factors affecting the joblessness risk of male breadwinners explained some of the observed country variation, although other country differences were not fully explained.

Although the variation in inflow rates was more important in explaining European dual joblessness rates, the variation in outflow rates (that is, duration) also contributed to these differences. Furthermore, the duration of dual joblessness is interesting in itself. Long-term unemployment reflects pronounced difficulties in securing employment, and due to its socio-economic consequences, it can be used as a measure of social distress. Prolonged dual joblessness can strengthen these outcomes. The thirteen countries had wide variation in outflow rates from dual joblessness. Consequently, the expected duration of dual joblessness varied from 8 months in Finland to an astonishing 34 months in Belgium, as shown by the

results in Chapter 4, Section 4. One can claim that the latter provides an indication of underclass formation in Belgium (cf. Buckingham, 1999).

Most of this variation was due to the differences in the exits from dual joblessness to male breadwinning. Therefore, although female employment is an important factor in reducing dual joblessness, it appears to function mainly by reducing the incidence of dual joblessness, not its duration. Most dynamics of dual joblessness were, therefore, in fact dynamics of male breadwinners who lost their jobs and (re-)entered employment.

The European variation in dual joblessness durations is a part of the wider problem of long-term unemployment in Europe, and can be explained with similar factors. Indeed, these explained the long durations of dual joblessness in Belgium, Italy, Spain, Portugal, and the United Kingdom, and the short average duration in Finland and Austria. Dually jobless couples that faced rapidly changing labour markets had difficulties in entering employment. In line with the literature on unemployment durations, long-lasting unemployment benefits also prolonged spells of dual joblessness. On the other hand, wide coverage of collectively bargained wage deals seemed to decrease durations. A possible scenario is that by increasing low wages, an extended coverage of collective deals makes employment more attractive to dually jobless couples, which often have inferior labour market resources. I also found weak evidence in support of a "hump-shaped" relationship between the centralisation/coordination of wage bargaining and exits from dual joblessness (cf. Calmfors and Drifill, 1988). Against expectations, stricter employment protection also seemed to shorten dual joblessness durations. This can be a result of the sample of countries analysed. I also speculated (with some corresponding evidence) upon the possibility of some behavioural responses. Dually jobless couples may prefer secure employment, especially when confronted with a possible fall in means tested benefits after a brief spell of employment. In line with many previous findings, I also found that couples that received means tested benefits had lower rates of exit from dual joblessness. Finally, older dually jobless couples with bad health, prolonged joblessness, and children experienced longer durations. Overall, dually jobless couples seem to be rather responsive to policies that shape incentives for taking up paid work. However, it is obvious that since unobserved factors were not controlled, these results cannot be interpreted in a strict causal sense.

Much previous research on dual joblessness has focused on the wives of unemployed men, sought for the Added Worker Effect, and tried to understand why it is so hard to find. An explanation brought up in the ethnographic literature is that the wives of jobless men do not want to become single breadwinners because of the cultural inappropriateness of female breadwinning. This is called the macho-effect. Although some studies have discussed this effect, it has not yet been tested with quantitative data. Inspired by the finding in Chapter 5 that dual joblessness hardly ever ends in female breadwinning, I sought for the macho effect in Chapter 6.

The macho-effect hypothesis is one of ways in which partners "do gender" in their daily interactions. The doing gender theory explains the persistent gender differences in behaviour with the – often unreflected – rules that govern social interactions. The division of labour in the household is a classic example. The rules governing this division have changed. Women take an active part in employment and men have gradually increased their share of housework. Still, in the words of Kathleen Gerson, there seems to be "a roadblock when it comes to single-income households where the single earner is a woman" (Dunleavey, 2007), as we have already noted. Despite the increases in female employment rates, men have not withdrawn from the labour force, often not even to take care of their small children. Men continue to consider themselves, and women often consider their husbands, as the breadwinners of the family (Hakim, 2003). The female breadwinner remains very much an exception.

There can be several other reasons why jobless women with jobless husbands do not become breadwinners. Men continue to have a wage advantage both in the economy at large, and within the family. In many European countries, women experience more difficulties in getting a job (Azmat et al., 2006). These can create both incentives and constraints when deciding between who works and who does not. Women are also more constrained by childcare obligations. Taking these factors into account, I formulated hypotheses of what a macho-effect would look like in data on transitions between the partners' joint employment statuses and used conditional logit modelling and simulations to test them.

Did I find a macho-effect? I believe that the answer is positive. Dually jobless couples had very low transitions rates to female breadwinning, and female breadwinner solutions were less stable and more likely to transform into dual earner solutions than male breadwinner households. I found these patterns for the twelve European countries at large, and for Finland,

Germany, Spain, and the United Kingdom separately. These results remained even when the partners had similar characteristics. To be sure, there were national differences, so the macho-effect seemed somewhat weaker in Finland than the other three countries. I tested the results further at the European level. The macho-effect persisted even when the couple was young, childless, and not married, and husbands faced higher regional unemployment rates. Health problems of the husband appeared as a factor that was strong enough to oppose the macho-effect. Sharp wage or human capital inequality in favour of the wife could also weaken it. However, such inequalities need to be strong to produce any significant weakening in the macho-effect. It is of course possible that more sophisticated models with more variables or controls for unobserved factors counter these results. This is a task for future research.

I concluded Chapter 3 by stating that previous research on dual joblessness has found maybe the most conclusive support for explanations that stress the common characteristics of couples, the conditions of their local labour markets, and the effects of social benefits, which all work in the opposite direction than the Added Worker Effect. Based on Chapter 6, it seems that the macho-effect hypothesis can add to our understanding.

Many children live with two jobless parents. I began Chapter 7 by showing the average shares of children who experience dually jobless parenthood, that is, the simultaneous joblessness of both parents, between 1994 and 2000. The rates varied widely across Europe from a low of two percent in Denmark to a high of twelve percent in Ireland. The rates were similar or somewhat higher than the average dual joblessness rates estimated elsewhere in other chapters. This implies that many children were at higher risk of experiencing coupled joblessness (through their parents) than adults, and that at least some couples with children had high rates of dual joblessness. This was indeed the case, as in particular couples with three, four, or more children often had high risks. This raised the question whether childbearing affects dual joblessness.

I approached this question by first discussing a theoretical model in which wives are expected to withdraw from work following childbirth but in which husbands are expected to continue working or even increase their labour supplies. I expected this strengthening of the male breadwinner provision pattern to increase the risk of dual joblessness, following the results from Chapter 5. The question of how long the male breadwinner model persisted after childbirth depends mainly on the labour supply behaviour of mothers. The longer mothers

remain at home, the longer childbearing increases the risk of dual joblessness. I also discussed selection issues, which can affect the observed patterns.

I then moved on to discuss the institutions that can affect these processes. I discussed three core institutions: policies that support the employment of mothers, cash benefits for families with children, and employment protection laws. I expected that the first two shape the effect of childbearing as a function of the age of the child, that is, by affecting the length of the period in which the mother stays at home. I expected that policies that support the employment of mothers shorten the male breadwinner period of the couple, and thus its higher exposure time to dual joblessness, while – by providing unearned income for the family – I expected the effects of cash benefits to function in the opposite direction. I hypothesised that employment protection decreases the "initial shock" effect of childbearing by protecting the employment of the father, while at the same time increasing the male breadwinner period of the couple by depressing the employment of mothers, and thus, lengthening the "recovery period" from the initial shock.

I tested these hypotheses against the data with fixed effects logit models. These models enable one to control for unobserved fixed factors, but cannot eliminate possible bias from time-variant unobservables. In most countries, childbearing increased the risk of dual joblessness, in the expected ways. The risk of dual joblessness increased directly after childbirth, but decreased gradually as the child became older. I reported some cross-national differences. The most visible exceptions were Italy and Spain, where the overall effect of childbearing was negative. Moreover, in Italy even the initial shock was negative. It seems that Italian fathers are able to strengthen their attachment to employment as a consequence of fatherhood, although it is also possible that Italian men have (additional) children once their employment status is secured. Again, with the exceptions of Italy and Spain, I found that couples with lower risks of dual joblessness had a higher likelihood of having (an additional) a child at a certain point in time. Fertility behaviour can thus protect children against socio-economic risks.

The models used to explain the cross-national variation supported two of the institutional hypotheses. Employment protection was negatively associated with the initial shock and positively associated with the effect of the age of the youngest child. Employment protection thus seems to work in opposing ways: first by reducing the initial impact of childbearing, then

by slowing recovery from it. Policies that support the employment of mothers, on the other hand, fasten the recovery from the initial shock. The generosity of financial benefits targeted at families with children did not correlate with the child effects.

8.3 Implications

What are the implications of the results of this dissertation? In this section, I discuss some implications for research and for policy. The implications for research are of the general kind. I present some more specific suggestions for future research in the next section. I start with the implications for research.

A recurrent theme running through the analyses of this dissertation is the role of male and female employment for dual joblessness. Female employment protects couples from falling into dual joblessness, while male employment helps them in getting back up. Male employment decreases the initial socio-economic effects of childbearing, while female employment affects the duration of these effects. Different cultural rules govern male and female employment and their role in family provision. An implication of this is that both male and female employment should be taken seriously.

While this sounds all too obvious, it has not always been so in previous research. As discussed throughout the dissertation, most previous studies have analysed the labour supply of the wives of unemployed men. This reflects the view that male employment can be taken for granted, whereas women supply the additional labour of households. The rise in dual earner and dual career households is in partial conflict with the latter view. However, the gradual rise in male non-employment in many countries and especially at the low end of the skill distribution casts even the first assumption into increasing doubt (Faggio and Nickell, 2003).

Families are a core unit of social stratification and affect the behaviour of their members. Research on economic inequalities, social mobility, and female labour supply are the areas where this has been best understood. However, labour market research would do well in taking family situations into account more broadly than has been the case so far. Men do not exist as “islands”, and men’s family situations affect their economic behaviour, which again has feedback effects on their family situations (Lundberg, 2005). A key argument in Chapter 7 and Chapter 6 in particular was that cultural preconditions shape the gender divisions of labour and the ways families respond to economic incentives. These preconditions themselves

may be rather unresponsive to economic changes. Too often, social inequality research has either focused solely on economic factors or taken cultural preconditions for granted. The apparent persistence of gendered behavioural patterns also sends a signal to researchers analysing gender inequalities in employment and housework. Men and women continue to behave differently, and these differences can remain despite economic changes. This argument is similar to the one by Catherine Hakim (2000), who has argued that women's continuously lesser involvement in the labour market often reflects their own preferences.

The poverty rates presented in Figure 2.1 show clearly that dual joblessness should be of interest to policy makers. The pressure it puts on social security schemes only adds to this conclusion. The questions of male and female employment are again crucial. The analyses in chapters 5 and 7 stressed the important role of female employment for reducing dual joblessness. Female employment reduces the incidence risk of dual joblessness and the risks faced by families with children, and consequently, children themselves. As argued by Esping-Andersen (1999), a promotion of female employment can be a good policy for reducing social inequalities and poverty (also, Haataja, 1999). This conclusion seems especially topical as job insecurity is on the increase and labour market regulation and welfare states are under strain. However, as seen in Chapter 6, the promotion of female employment as a way out of dual joblessness is likely to face limits. The cultural barriers that seem to stigmatise female breadwinning are not easy to overcome by normal policy means.

This brings us back to the importance of male employment and "general" employment policies used to promote employment and reduce unemployment. The analyses in Chapter 5 and Chapter 7 showed that measures to improve job security continue to be relevant as an insurance against labour market risks, including dual joblessness. Quite obviously, adequate employment protection and permanent jobs reduce the incidence risk of dual joblessness. Furthermore, they can support families against possible social risks induced by childbearing (although this initial effect can be overrun by the lengthening of the high risk period after childbirth). Employment protection measures can even be beneficial for dually jobless couples, unlike one might expect. At least, no adverse associations between dual joblessness duration and employment protection were found, although the results cannot be interpreted in a causal sense. The need for employment protection measures as an insurance against dual joblessness depends on the dominant family model. One could claim that the spread of the dual earner model reduces the need for strict employment protection (of course, employment

protection can be defended for other reasons). What at least seems obvious is that male breadwinner societies need secure jobs. Job insecurity (whether through liberal employment protection or temporary jobs) does not work well in a male breadwinner society. Since a high share of temporary employment seems to be closely linked with tight employment protection legislation (OECD, 2004; Polavieja, 2006), promotion of the latter instead of the dual earner model may not, however, be a reasonable strategy in contemporary labour markets.

Long-term dual joblessness can be a bigger problem than a high incidence rate of coupled joblessness. Couples that are dually jobless for a long period can face excessive financial and social strain and can lose contact with the world of work. The children of such couples can face difficulties in their later lives (cf. Ermisch et al., 2004). Policy makers should thus be interested in preventing such developments. The results from Chapter 5 suggested that dually jobless couples are responsive to labour market and welfare state institutions. In particular, exhaustion limits to unemployment compensation and the availability of jobs paying a living wage appeared important (on the latter, see also Gregg and Wadsworth, 2000).

Much research has focused on the effects of means tested benefits. The results in Chapter 5 suggested that couples who receive means tested benefits had lower exit rates from dual joblessness, although the measure I used for such benefits was not perfect. Several previous results also support the claim that excessive means testing creates disincentives that are likely to harm dually jobless couples, although Doris (1998) claimed that these findings are a result of model misspecifications. These studies have focused on the labour supply of the wives of unemployed men. Male labour supply reactions to benefit means testing have not been studied in this context, even though the results in this dissertation suggest that they may be more important in helping dually jobless couples regain contact to work.

Although not covered explicitly in this dissertation, what should be of special focus are policies to prevent economic inactivity of prime-aged men (cf. Dorsett, 2001; Faggio and Nickell, 2003; Clasen et al., 2006). An optimist could see male economic inactivity as a possibility for renewal of the gender contract and a more active involvement of men in the household. This is unlikely to happen on a major scale, at least in the short-run. More likely outcomes are a polarisation of employment across households, an increase in idle single men, and further increases in single parenthood, especially at lower educational levels (Ellwood and Jencks, 2004; Edin and Kefalas, 2005).

8.2 Future research

In this last section, I present some suggestions for future research.

First, future research could build on the analyses of this dissertation. In the empirical chapters, I analysed aspects of dual joblessness that have not gained sufficient interest in previous research. The results raised several issues that warrant further analysis. One such issue concerns the durations of dual joblessness. As I reported in the fourth section of Chapter 4, dual joblessness is a highly persistent state in many countries (see also Dorsett, 2001). Chapter 5 suggested that this persistency depends partly on welfare state and labour market policies. Future analysis of these issues could benefit from analysing the role of sickness benefit systems in addition to unemployment compensation and social assistance. Health status of the partners, and especially of the husband, appeared as an important risk factor of (prolonged) dual joblessness. Some research has pointed to the functioning of sickness benefit systems as an important factor in explaining the increasing inactivity of prime-aged men (Faggio and Nickell, 2003; Clasen et al., 2006). A hypothesis is that these systems also affect dual joblessness durations. Finally, it would be interesting to analyse whether Clark's (2003) findings suggesting that unemployment of the spouse decreases the adverse psychological impacts of own unemployment – and thus decreases exits from unemployment – can be replicated with other data and outside the United Kingdom.

Another task for future research is a closer examination of the factors that affect children's exposure to household joblessness. In the conclusions to Chapter 7, I already mentioned the association between dual joblessness risk factors and fertility as an interesting topic of further research. One could also analyse the effects of policy shifts (such as changes in childcare and parental leave policies, or cash benefits systems, such as the home-care allowance policies in Finland and Norway) on the risks of household joblessness and poverty.

Obviously, the macho-effect also warrants further analysis. Despite the results in Chapter 6, future research with larger (national) data, more sophisticated models, and preferably, direct measures could add to our understanding of the cultural rules determining gendered family provision patterns. In this context, one should also remember the virtues of qualitative research, which can often inform us of processes that function behind the scene of quantitative data. This same conclusion applies also to research on dual joblessness in general.

An analysis of the longer-term trends in dual joblessness and employment polarisation would be an interesting topic. Some descriptive research has already been made (Ercolani and Jenkins, 1998; Gregg and Wadsworth, 2003). Long-term data from several countries data would be useful for assessing the factors behind dual joblessness that I found important in this study. Have the increases in female employment reduced the risk of dual joblessness? Have they affected the polarisation of work? What is the role of the decline in the employment of low-skilled men? How have changes in employment protection and wage-setting institutions affected dual joblessness? In this context, it would be very interesting to analyse the relationships between rising wage inequality, dual joblessness, and employment polarisation. Rising wage inequality may contribute to employment polarisation through several channels. Wage inequality can strengthen polarisation by increasing the labour supply of highly skilled workers and depressing the supply of low-skilled workers (if lower real wages stagnate). Since female wage elasticity is higher than male elasticity, this would happen in particular through the increases in the labour supply of high-wage women, who often have high-wage partners, and a decline (or slower increase) in the labour supply of low-wage women, who generally have low-wage partners (cf. Juhn and Murphy, 1997). A decrease in the wage elasticity of female labour supply (as suggested by Blau and Kahn (2006) for the United States) can counter this development. Furthermore, a decrease in the responsiveness of female labour supply to the wages of the husband (Blau and Kahn, 2006) would further dampen any additional worker effects. This kind of research could be done with the European Union Labour Force Survey.

Finally, it would be interesting to study the long-term impacts of dual joblessness on labour market outcomes. Research has documented scar effects of own unemployment (Arumpalam, 2001; Gangl, 2003; 2004; 2006). Do dual joblessness and joblessness of the spouse have similar effects? If spouse joblessness depresses labour supply, this can add to the scar effects of unemployment by increasing human capital losses and stigma in the eyes of employers due to increases in unemployment durations. Spouse joblessness may also mean lost contacts to the labour market (De Graaf and Ultee, 2000). If, on the other hand, joblessness of the spouse makes unemployed workers accept less optimal employment conditions that they otherwise would, this can carry on to their later careers.

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